STEEL ROPES

STALKANAT

CATALOG

The “STALKANAT” factory was founded in 1806. Today, the Private Joint-Stock Company “Stalkanat” is the largest enterprise in Ukraine that produces metal ware (wire, ropes, PC strands and metal fiber). The company employs over a thousand employees.

The company produces high-quality products in accordance with the national standards of Ukraine (DSTU), Russia (GOST), Germany (DIN), Great Britain (BS), USA (ASTM) and international standards (ISO, EN). State-of-the-art technologies implemented by the PJSC “STALKANAT” can satisfy the most stringent requirements ofcustomers.

Our enterprise offers wide range of high-quality metal goods, and services as well as flexible payment terms. Currently, the main strategic directions of the PJSC “Stalkanat” development are related to satisfying customer expectations, improving the quality of products, renovating and modernizing our equipment, increasing productivity, and expanding the market share.

The main competitive advantages of the PJSC “Stalkanat” are as follows:

- a wide range of the metal ware products;
- a possibility to arrange delivery;
- high quality service;
- custom order/batch formation (upon customers request);
- flexible payment terms;
- long-term crediting of final consumers;
- precise and guaranteed terms of product delivery;
- technical assistance.

Main goals of the company - contribution in development of customers’ business, providing them with wide range of products and associated services which meet their needs.

The company’s products are exported to over 30 countries on all continents. Constant work at improvement of quality and reliability of supplied products aims to positions strengthen at local and foreign markets and product range expansion.

The main customers of the PJSC “Stalkanat” are both national and foreign enterprises of the coal-mining, oremining, gas-and-oil production industries, metallurgical industry, transport and agriculture machine-building, building industry, railway transport, energetics and a marine-economy complex.

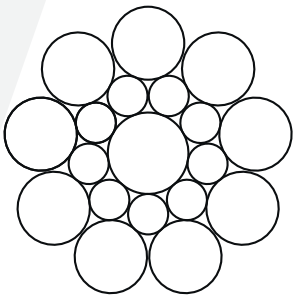
The company has strict quality control of raw materials for ropes, rope wires and end products. The quality management **system of the PJSC “Stalkanat” has been certified in compliance with the International Standard ISO-9001. All manufactured products comply with International standards and have the required quality certificates.For maritime shipping our company produces ropes in accordance with the Russian Marine Register of Shipping certificate and the certificate of the**
Shipping Register of Ukraine

Wire rope products of the PJSC “Stalkanat” - are available in wide range of steel wire ropes of various constructions. The base of any round rope is the strands that lay around central element - the core. The core, can be made from fiber (organic or synthetic), metal (arranged as a wire strand or as an independent wire rope), solid polymer or combination of materials. The strands of the rope consist of an assembly of wires of appropriate shape and dimensions laid helically in the same direction in one or more layers around a center.

The rope performance, its fatigue resistance, abrasive wear resistance and radial rigidity (crush resistance, for example, in case of multi-layer lay on drum) depend on the choice of strand and rope construction.

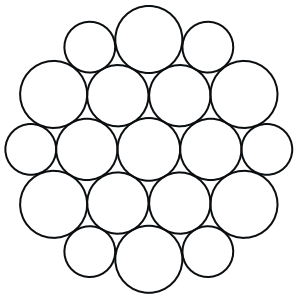
The main types of the steel rope strand constructions

S – Seale



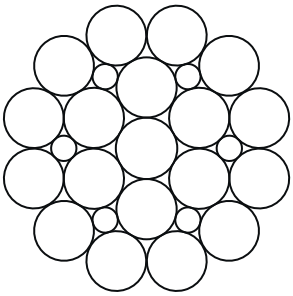
Parallel lay strand construction which contains of at least two layers with the same number of wires of different diameters laid in one operation and in the same direction.

W – Warrington



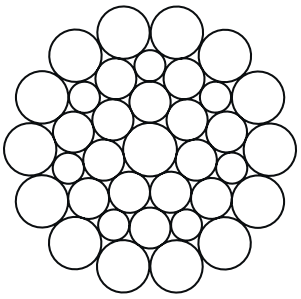
Parallel lay strand construction having an outer layer containing alternately large and small wires and twice the number of wires as the inner layer.

F – Filler



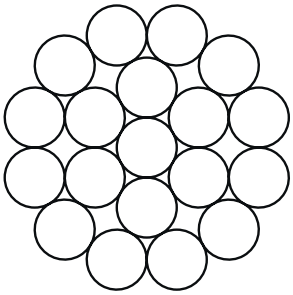
Parallel lay strand construction having an outer layer containing twice the number of wires than the inner layer, with filler wires laid in the interstices between the layers.

WS – Warrington-Seale



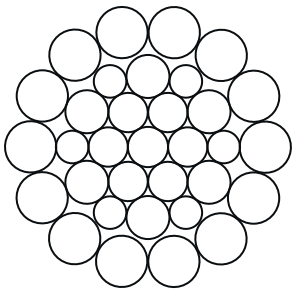
Parallel lay strand construction having three or more layers laid in one operation and formed from a combination of strand types Warrington and Seale.

M



Constructions of the strand laid in several operations in which wires of superimposed layers cross one another and have a point contact.

N



Construction of a strand laid in several operations that has at least three layers of wires, the outer layer of which is laid onto the central construction of the parallel lay.

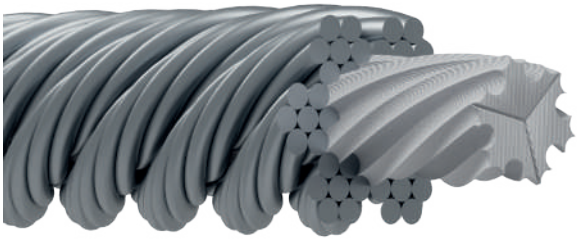
Increasing the number of wires and reducing their diameter allows to increase the fatigue resistance of the rope, but it reduces the abrasive wear resistance. Reducing the number of wires in the strands and increasing their diameter allows to increase the abrasive wear resistance, but it reduce the fatigue resistance of the rope. By choosing a six-strand cross-lay rope with a metal core, we get increased crush resistance during a multi-layer lay on the drum, unlike the multi-strand ropes, ropes with a fiber core or lang-lay ropes which are poorly resistant to radial loads. Ropes with polymer coating of a metal core can be used at wider angles of deviation than regular ropes.

That is why the choice of rope, as well as choice of any other equipment, should be made precisely and very carefully. It is necessary to take into account all the working conditions and parameters of the rope.

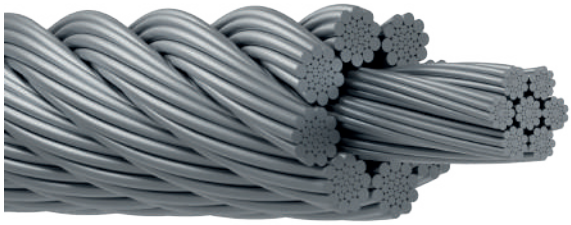
The main types of cores of steel ropes

The core is the most important element of the steel rope construction. It is the core that is responsible for preserving the shape and size of the rope cross section and it serves as a source of lubrication for the inner region of the rope strands during operation.

FC – fiber core



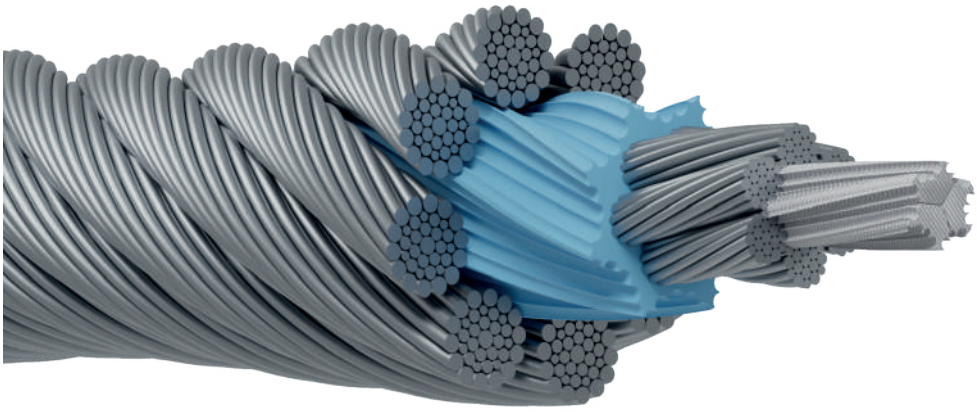
WC – steel core



WSC – wire strand core

IWRC – independent wire rope core

EPIWRC – independent wire rope core covered with a polymer



Lay directions and types

sZ – right ordinary lay

zS – left ordinary lay

zZ – right lang lay

sS – left lang lay

aZ – right alternate lay

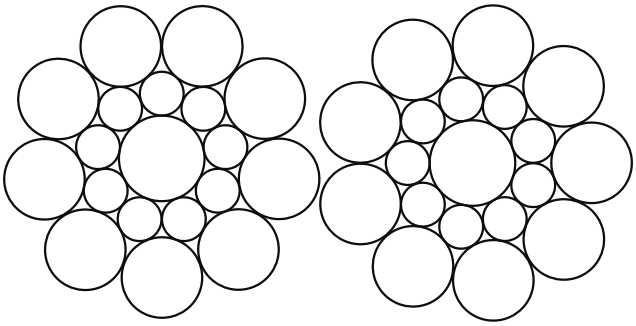
aS – left alternate lay

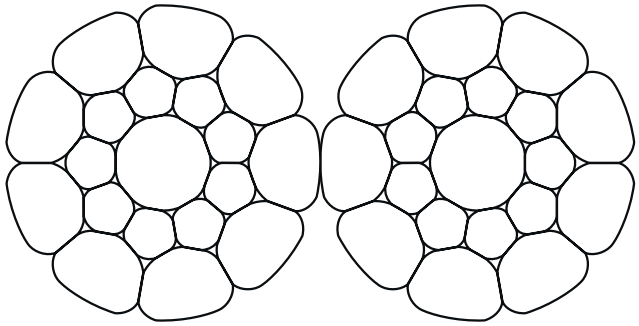
Manufacturing methods that extends steel wire rope lifespan

Ropes with compacted strands

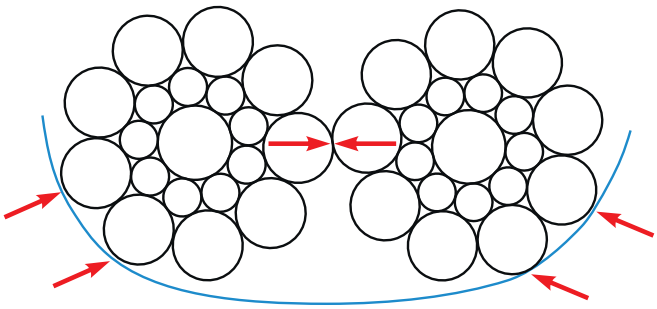
One of the effective ways to extend steel wire rope lifespan is to make it with compacted strands. Before the strands are braid into a steel wire rope they are exposed to radiate swaging which cause wire deformation resulting into solidified structure and dense cross section. In the process of swaging, the outer diameter of the strand decreases, the metal cross-section area increases, since the voids between the wires inside the strand are filled. The surface of the strand becomes smoother.

Improving of strand contact conditions

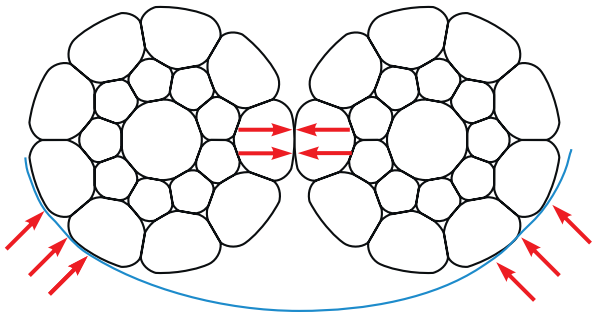




Locking out of wires is possible



Locking out of wires is excepted



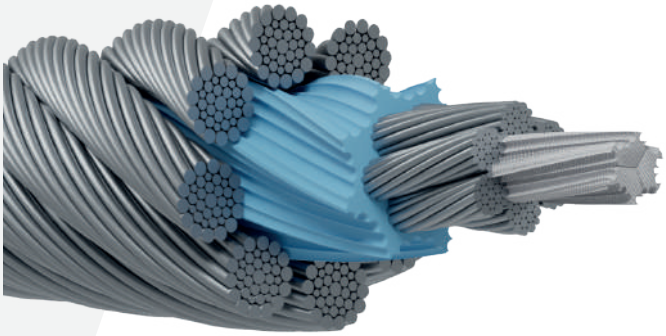
Reducing of contact pressures

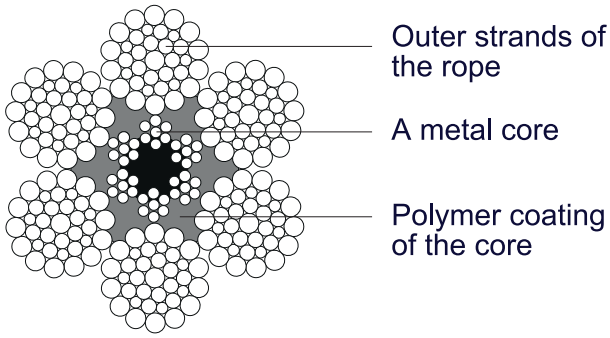
Advantages of compacted strands:

- Rope with swaged strands have higher tensile strength comparing to regular ropes of all diameters.
- Wires in swaged strands have smother contact with each other comparing to round wires of regular strands.
- Smooth surface of swaged strands provides better contact with surface of pulleys and drums resulting in higher endurance of equipment and of the rope itself.
- Ropes with swaged strands have high abrasive wear and flexural fatigue resistance.
- Contact between outer strands and contact between layers of rope on the drum are far better comparing to regular round strand ropes.

A core with polymer coating

Steel wire rope with polymer coated metal core consists of layer of strand braided around metal core which is covered in polymer using extrusion method. Polymer coating drastically reduces possible glide between rope elements and prevents geometrical change of the rope.





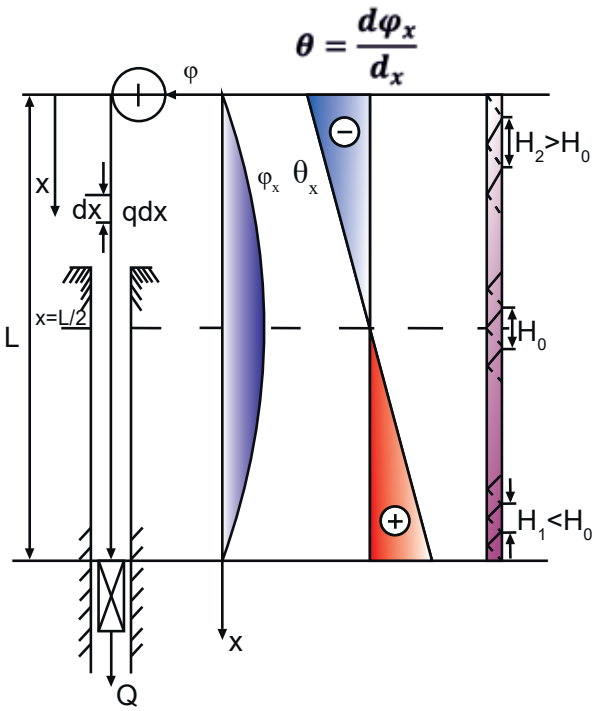
Plastic covering has the following purposes:

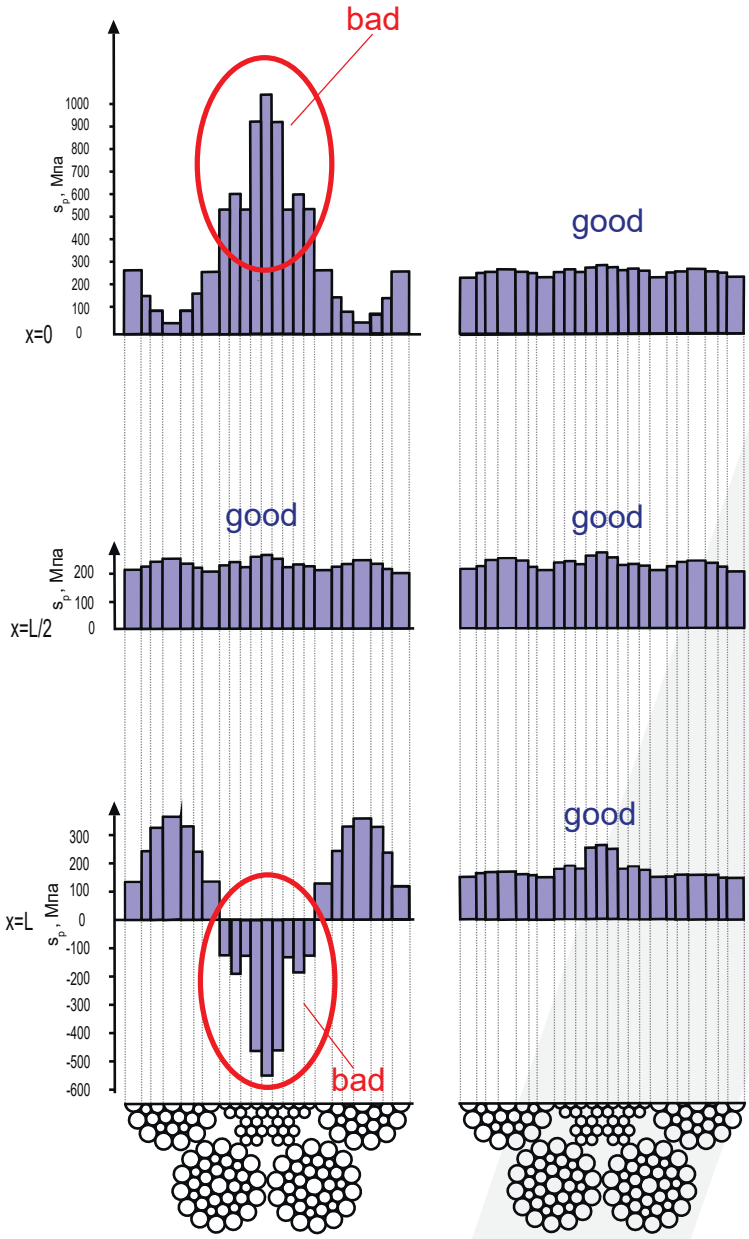
- Creation of physical bound that fixates positions of certain components of steel wire rope and provides their required shift.
- Reducing of internal corrosion caused by pollutants due to higher hermetic state of the rope.
- Filling of gaps between outer strands and core to eliminate wear.
- Special type polymer is created to be used between -35 and +90 without dimensional change or breaks.
- Stabilizing effect of plastic coating is seen the most during influence of lateral thrust, rotation, caused by wide deviation angle on pulleys, influence of impact stress.

Adapted steel ropes

The essence of this solution is to pre-design and manufacture a hoist rope with geometrical parameters as close as possible to the parameters that the rope acquires in a vertical hanging due to gravitational rotation. For this, strands are braided with variable lay lengths along the rope. The logic of variation of the lay lengths depends on the type and parameters of the sinking equipment, for which this rope is proposed. Therefore, we call such hoist ropes adapted. This processing technique, developed under the guidance of Professor V. Malinovsky. (Patent No. 85078) allows to reduce the gravitational rotation of the rope in the mine shaft and leads to a more uniform distribution of stresses among the wires in the strands of the rope, which allows to increase in fatigue strength and service life of mine hoist ropes. The adapted ropes are recommended for use in the mines with depth (the length of the rope in a vertical hanging line) of more than 1000 m.

The hoist rope rotation scheme in a vertical shaft and normal stress diagrams for a standard rope Ø 42 mm according to Std. EN 12385-4 6x36WS-IWRC (GOST 7669-80) and a rope of the same construction, but the adapted one.





a) hoisting diagram

b) diagram of cross-section turn angles

c) torsion strain of the rope

d) equilibrium state of the rope

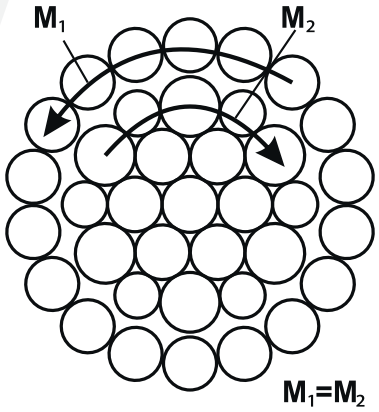
e) diagram of the normal stresses in a standard rope

f) diagram of the normal stresses in the adapted rope

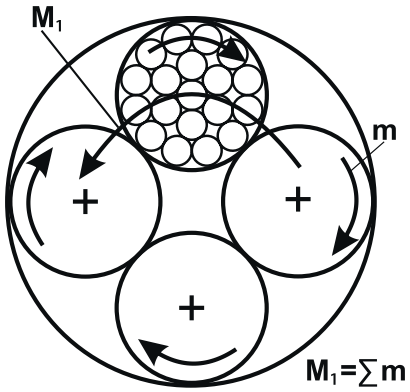
Rotation-resistant ropes and low torque (low rotation) ropes

Rotation-resistant ropes are ropes (mostly multilayer ones) in which balance of the torques is achieved. **There are two constructive ways to achieve balance conditions for steel ropes:**

1st way – due to contra-lay of the rope layers



2nd way – due to ordinary lay in a ropes with up to 4 strands

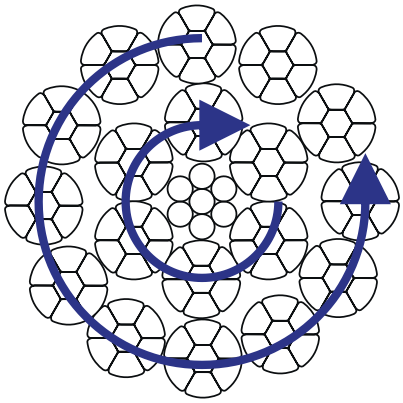


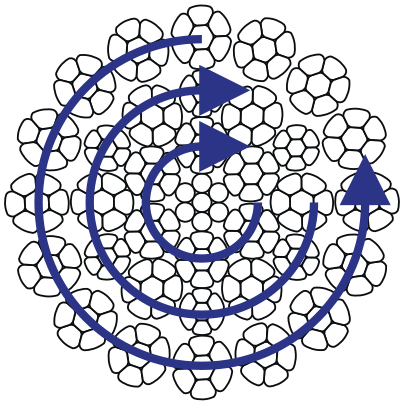
Multi-strand ropes with at least 3 layers of strands laid around the core having at least 15 strands in outer layer can be considered rotation-resistant ones.

Moreover, the outer strands should have the opposite direction of the lay, comparing to the strands of the inner layers of the rope. Such ropes have a very low torque or do not have it at all in a certain range of loads. They may be used with one free end, with or without a swivel.

Low-torque (low-rotation) ropes include ropes with more than ten outer strands and having at least two layers of the strands laid around the core with an outer layer of strands laid in the opposite direction comparing to inner layers. They have a significant torsional resistance. But in order to have a stable operation, they are not recommended to be used with one free end and with a swivel.

Special approach to handling of such ropes is required due to complexity of their construction.





In the single-layer low-strand, non-rotating, ordinary-lay ropes, there is another principle of torque balancing. At certain lay parameters of both strands and rope equality of torques is reached.

Low-strand ropes have a small contact surface, which reduces their endurance while working on blocks and drums, but this problem is solved by the use of compacted strands. Four-strand ropes are not recommended for use with a swivel.

The low-strand ropes are much simpler than the multi-strand non-rotating ropes and they have a high structural stability. Therefore their application in certain cases is rather effective.

Rope designation according to EN 12385

22	6x36WS	-IWRC	1770	B	sZ
32	18x19S	-WSC	1960	U	sZ
95	1x127		1570	B	Z

Keys:

a) rope diameter

b) rope construction

c) core construction

d) tensile strength

e) wire coating type:
(U – non-galvanized; A, B – grade of zinc coating)

f) type and lay direction

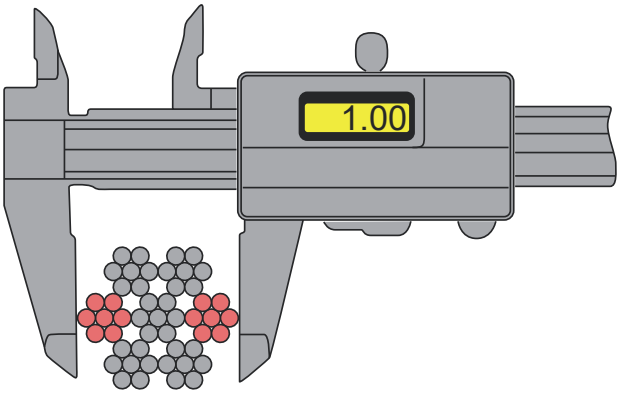
Rope constructions according to Std. GOST and matching constructions according to EN 12385

Construction	GOST	EN 12385
6x19(1+6+6/6)+1 o.c.	2688	6x19W-FC
1x7(1+6)	3062	1x7
1x19(1+6+12)	3063	1x19M
1x37(1+6+12+18)	3064	1x37M
6x7(1+6)+1x7(1+6)	3066	6x7-WSC
6x19(1+6+12)+1x19(1+6+12)	3067	6x19M-WSC
6x7(1+6)+1 o.c.	3069	6x7-FC
6x19(1+6+12)+1 o.c.	3070	6x19M-FC

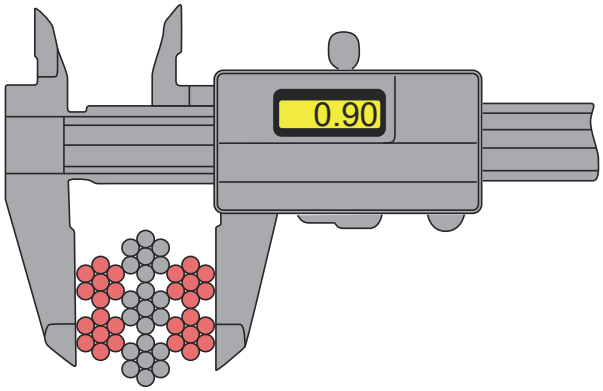
Construction	GOST	EN 12385
6x37(1+6+12+18)+1 o.c.	3071	6x37M-FC
6x19(1+9+9)+1 o.c.	3077	6x19S-FC
6x37(1+6+15+15)+1 o.c.	3079	6x37NS-FC
6x19(1+9+9)+6x7(1+6)+1x7(1+6)	3081	6x19S-IWRC
12x19(1+6+6/6)+6x19(1+6+6/6)+1 o.c.	3088	18x19W-FC
6x7x19(1+6+6/6)+1 o.c.	3089	6x6x19W-FC
6x25(1+6;6+12)+1 o.c.	7665	6x25F-FC
6x25(1+6;6+12)+6x7(1+6)+1x7(1+6)	7667	6x25F-IWRC
6x36(1+7+7/7+14)+1 o.c.	7668	6x36WS-FC
6x36(1+7+7/7+14)+6x7(1+6)+1x7(1+6)	7669	6x36WS-IWRC
12x7(1+6)+6x7(1+6)+1 o.c.	7681	18x7-FC
6x19(1+6+6/6)+6x7(1+6)+1x7(1+6)	14954	6x19W-IWRC
12x7(1+6)+6x19(1+6+6/6)+1 o.c.	16828	12x7-IWRC
6x31(1+6+6/6+12)+1 o.c.	16853 OC	6x31WS-FC
6x31(1+6+6/6+12)+6x7(1+6)+1x7(1+6)	16853 MC	6x31WS-IWRC

Steel rope diameter

CORRECT MEASUREMENT



INCORRECT MEASUREMENT



Tolerance to the rope diameter according to EN 12385-4 requirements

Nominal diameter of the rope, mm	Limit deviation from the tope nominal diameter, %
From 2 to < 4	+8 0
From 4 to < 6	+7 0
From 6 to < 8	+6 0
8 and more	+5 0

The following codes for rope lubricants are used at the “STALKANAT”

Lubricant code	Fibre core	Steel core		Rope strands	Rope
		strand	as a whole		
S (A)	without lubricant	without lubricant	without lubricant	without lubricant	without lubricant
A 0	-	lubricated	without lubricant	without lubricant	without lubricant
A 1	lubricated	lubricated	without lubricant	lubricated	without lubricant
A 2	lubricated	lubricated	lubricated	lubricated	lubricated
B 2	lubricated	lubricated	lubricated	lubricated	lubricated with wiping *

* Note: “lubricated with wiping” means that the rope is lubricated in a bath by immersing it with further wiping off the extra lubricant by means of a rubber technical tube (Std. GOST 5496-78 or Specs. TУ 38105881-85).

Code “A0’ is used for the ropes with a metal core only, since lubricant is pressed out from a core while laying the rope, after that the rope looks like lubricated. Other ways of lubrication are possible, at customer’s request.

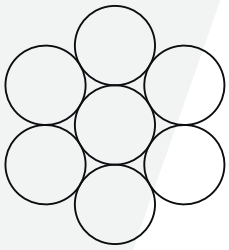
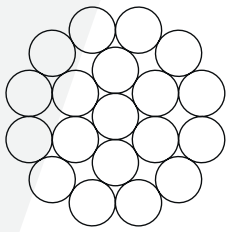
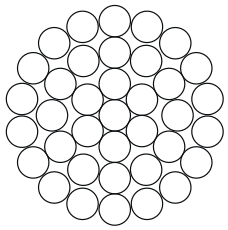
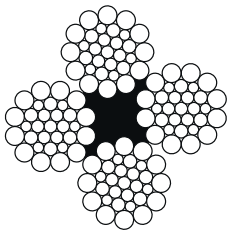
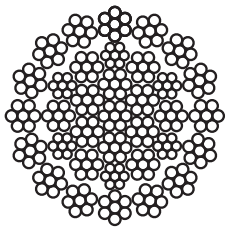
Minimal required information for rope order

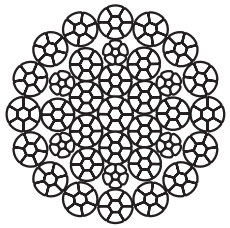
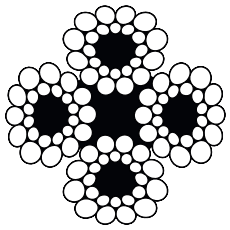
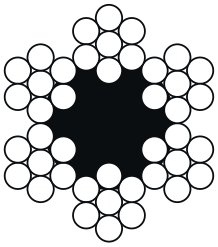
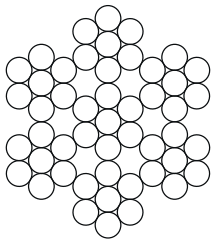
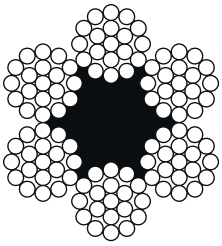
- Rope designation
- Nominal diameter of the rope
- Rope construction
- Strand compaction
- Core material and necessity in its covering with polymer materials
- Tensile Strength
- Type of coating (Bright, Galvanized)
- Lay direction and type
- Regulatory document (standard)
- Minimum breaking force
- Lubrication code
- Nominal length
- Requirements to tare and packing
- Required certificates (Maritime Register, API, etc.)

In case of order on mine ropes or presence of special requirements, additional information will be required. Therefore, it is recommended to consult with our specialists before ordering. This will allow you to select or develop a rope for specific equipment and specific operating conditions, as well as to get advice on the specificity of use, installation and operation of ropes.

On customer request, the ropes can be produced with other intermediate sizes and tensile strength. The values of breaking forces of the ropes tensile strength of which are not listed in the table, will be increased by approximately 6% for every 100 N/mm².

Product Range

Schematic drawing / Trademark	Standard and construction	Application	Page
 STS 3052	**1x7 (1-6)** **EN 12385-4 1x7, ISO 2408, DIN 3052, GOST 3062-80**	seizing ropes, guy ropes, shrouds, guides for overhead circuits	43
 STS 3053	**1x19 (1-6/12)** **EN 12385-4 1x19M, ISO 2408, DIN 3053, GOST 3063-80**	ropes for cable ways, crane ropes, ropes for auto industry, ropes for lightning protection	45
 STS 3054	**1x37 (1-6/12/18)** **EN 12385-4 1x37M, ISO 2408, DIN 3054, GOST 3064-80**	ropes for power transmission lines, guy ropes for supports	47
 STS 104.1	**4x31 (1-6-6 + 6-12)-FC** **EN 12385-4 4x31WS-FC, ISO 2408**	for construction hoist trolleys	49
 STS 147.2	**35(W)x7** **EN 12385-4 35(W)x7**	rotation-resistant ropes, for cranes, mining lifting ropes	50

Schematic drawing / Trademark	Standard and construction	Application	Page
 STS 147.2K	**35(W)xK7** **EN 12385-4 35(W)xK7**	rotation-resistant ropes, for cranes, mining lifting ropes	51
 STS 122.2K	**K4 x 24 (FC-12-12)-5 FC** **EN 12385-4 K4 x 24S-5FC, ISO 2408**	rotation-resistant ropes for cranes	52
 STS 3055.1	**6 x 7 (1-6)-FC** **EN 12385-4 6x7-FC, ISO 2408, DIN 3055 FE, GOST 3069-80**	ropes for cable-ways, cable cranes, shipping and hauling ropes	53
 STS 3055.3	**6x7 (1-6)-WSC** **EN 12385-4 6x7-WSC, ISO 2408, DIN 3055 SE, GOST 3066-80**	ropes for cars and computers	55
 STS 3060.1	**6x19 (1-6/12)-FC** **EN 12385-4 6x19M-FC, ISO 2408, DIN 3060 FE, GOST 3070-88**	slings , tow and raft attachments	57

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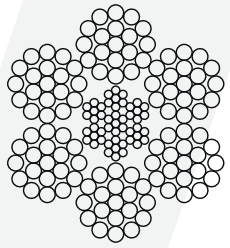
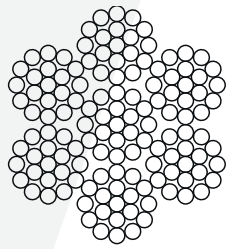
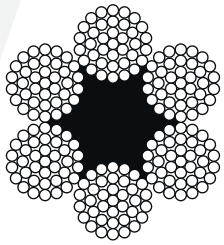
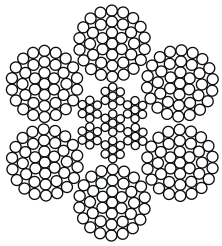
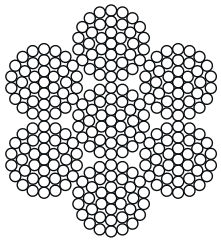
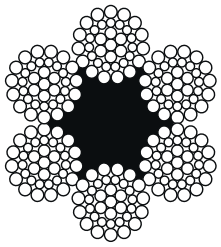
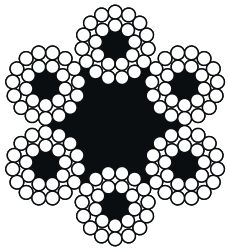
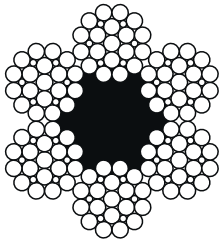
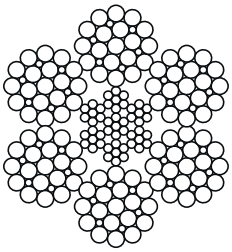
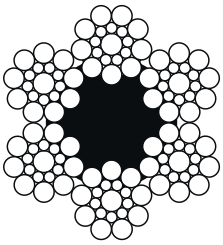
 STS 3060.2	**6x19 (1-6/12)-IWRC** **EN 12385-4 6x19M- IWRC, ISO 2408, DIN 3060 SES**	slings , tow and raft attachments	60
 STS 3060.3	**6x19 (1-6/12)-WSC** **EN 12385-4 6x19M-WSC, ISO 2408, DIN 3060 SEL, GOST 3067-88**	slings , tow and raft attachments	62
 STS 3066.1	**6x37 (1-6/12/18)-FC** **EN 12385-4 6x37M-FC, ISO 2408, DIN 3066 FE, GOST 3071-88**	slings, ropes for stoppage of cargo handling	64
 STS 3066.2	**6x37 (1-6/12/18)-IWRC** **EN 12385-4 6x37M- IWRC, ISO 2408, DIN 3066 SES, GOST 3068-88**	slings, ropes for stoppage of cargo handling	66
 STS 3066.3	**6x37 (1-6/12/18)-WSC** **EN 12385-4 6x37M-WSC, ISO 2408, DIN 3066 SEL**	slings, ropes for stoppage of cargo handling	68

Schematic drawing / Trademark	Standard and construction	Application	Page
 STS 3079	**6x37 (1-6/15-15)-FC** **EN 12385-4 6x37NS-FC, ISO 2408, GOST 3079-80**	slings, ropes for stoppage of cargo handling	**70**
 STS 3068.1	**6x24 (FC-9-15)-7FC** **EN 12385-4 6x24M-7FC, ISO 2408, DIN 3068 FE**	multi-purpose lifting ropes	**71**
 STS 3057.1	**6x25 (1-6-6F-12)-FC** **EN 12385-4 6x25F-FC, ISO 2408, DIN 3057 FE, GOST 7665-80**	ropes for hoisting transport machines, crane ropes	**72**
 STS 3057.2	**6x25 (1-6-6F-12)-IWRC** **EN 12385-4 6x25F-IWRC, ISO 2408, DIN 3057 SE, GOST 7667-80**	ropes for hoisting transport machines, crane ropes	**74**
 STS 3058.1	**6x19 (1-9-9)-FC** **EN 12385-4 6x19S-FC, ISO 2408, DIN 3058 FE, GOST 3077-80**	ropes for hoisting transport machines, ropes for elevators, for cable-ways, drilling ropes for oil and gas extraction	**76**

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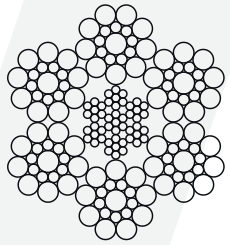
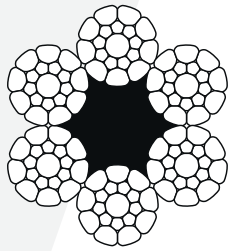
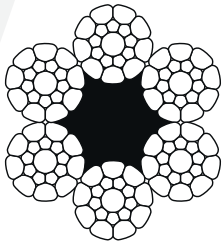
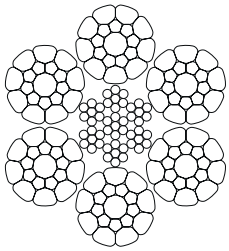
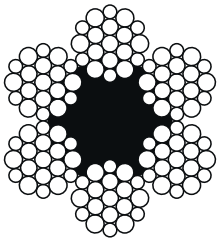
 STS 3058.2	**6x19 (1-9-9)-IWRC** **EN 12385-4 6x19S-IWRC, ISO 2408, DIN 3058 SE, GOST 3081-80**	ropes for hoisting-transport machines, ropes for elevators, for cable-ways, drilling ropes for oil and gas extraction	78
 STS 033	**6xK19 (1-9-9)-FC** **EN 12385-6 6xK19S-FC**	ropes for inclined shaft	80
 STS 3058.1 K	**6xK19 (1-9-9)-FC** **EN 12385-4 6xK19S-FC**	ropes for inclined shaft, ropes for hoisting transport machines, drilling ropes for oil and gas extraction	81
 STS 3058.2 K	**6xK19 (1-9-9)-IWRC** **EN 12385-4 6xK19S-IWRC**	drilling ropes for oil and gas extraction, ropes for hoisting transport machines	82
 STS 3059.1	**6x19 (1-6-6+6)-FC** **EN 12385-4 6x19W-FC , ISO 2408, DIN 3059 FE , GOST 2688-80**	ropes for hoisting transport machines	83

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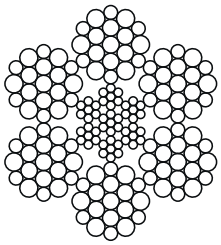
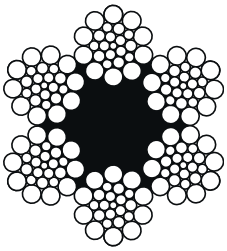
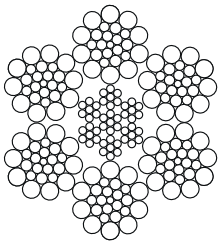
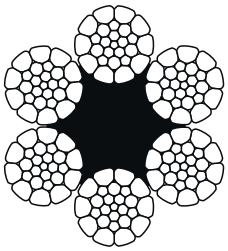
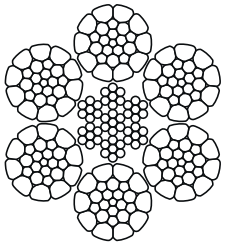
 STS 3059.2	**6x19 (1-6-6+ 6)-IWRC** **EN 12385-4 6x19W-IWRC, ISO 2408, DIN 3059 SE, GOST 14954-80**	ropes for hoisting transport machines	**86**
 STS 102.1	**6x26 (1-5-5+5-10)-FC** **EN 12385-4 6x26WS-FC**	drilling ropes for oil and gas extraction, ropes for hoisting transport machines	**98**
 STS 102.2	**6x26 (1-5-5+5-10)-IWRC** **EN 12385-4 6x26WS-IWRC**	Drilling ropes for oil and gas extraction, ropes for hoisting transport machines	**89**
 STS 102.1 K	**6xK26 (1-5-5+5-10)-FC** **EN 12385-4 6xK26WS-FC**	Drilling ropes for oil and gas extraction, ropes for hoisting transport machines	**90**
 STS 102.2 K	**6xK26 (1-5-5+5-10)-IWRC** **EN 12385-4 6xK26WS-IWRC**	Drilling ropes for oil and gas extraction, ropes for hoisting transport machines	**91**

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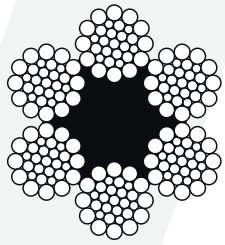
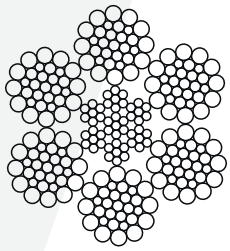
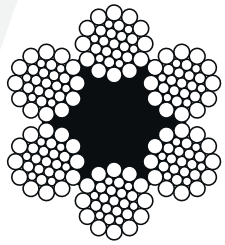
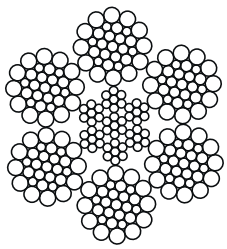
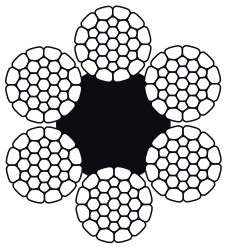
 STS 16853.1	6x31 (1-6-6+6-12)-FC **EN 12385-4 6x31WS-FC , GOST 16853-88**	Drilling ropes for oil and gas extraction	92
 STS 16853.2	6x31 (1-6-6+6-12)-IWRC **EN 12385-4 6x31WS-IWRC**	Drilling ropes for oil and gas extraction	93
 STS 117.1	6x31 (1-6-6+6-12)-FC **EN 12385-4 6x31WS-FC , GOST 16853-88**	ropes for hoisting transport machines, drilling ropes for oil and gas extraction	94
 STS 117. 2	6x31 (1-6-6+6-12)-IWRC **EN 12385-4 6x31WS-IWRC**	ropes for hoisting transport machines, drilling ropes for oil and gas extraction	96
 STS 091.1	6xK31 (1-6-6 + 6-12)-FC **EN 12385-4 6xK31WS-FC , ТУ У 25.9-26209430-091:2016**	drilling ropes for oil and gas extraction, ropes for hoisting transport machines	98

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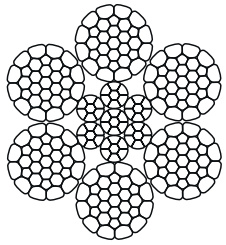
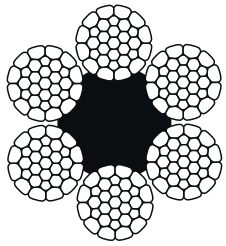
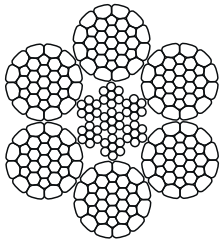
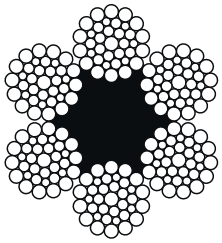
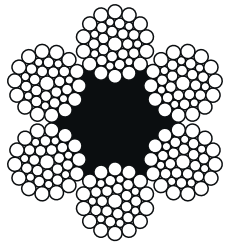
 STS 091.2	**6xK31 (1-6-6+6-12)-IWRC(K)** **EN 12385-4 6xK31WS-IWRC(K), ТУ У 25.9-26209430-091:2016**	drilling ropes for oil and gas extraction, ropes for hoisting transport machines	99
 STS 117.1 K	**6xK31 (1-6-6 + 6-12)-FC** **EN 12385-4 6xK31WS-FC**	drilling ropes for oil and gas extraction, ropes for hoisting transport machines	100
 STS 117.2 K	**6xK31 (1-6-6+6-12)-IWRC** **EN 12385-4 6xK31WS-IWRC**	drilling ropes for oil and gas extraction, ropes for hoisting transport machines	101
 STS 3064.1	**6x36 (1-7-7+7-14)-FC** **EN 12385-4 6x36WS-FC, ISO 2408, DIN 3064 FE, GOST 7668-80**	ropes for hoisting-transport machines, mining ropes for hoisting plants	102
 STS 3064.1.6	**6x36 (1-7-7+7-14)-FC** **EN 12385-6 6x36WS-FC**	mining ropes for hoisting plants	105

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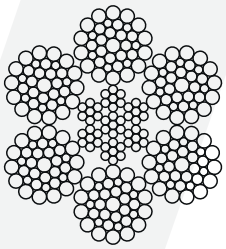
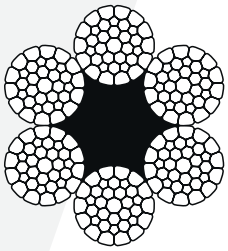
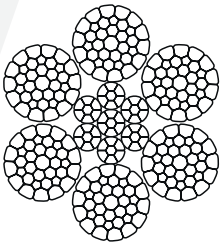
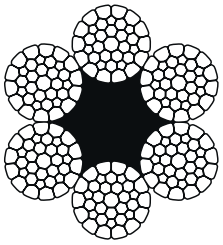
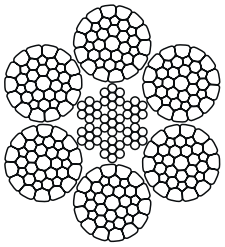
 STS 3064.2	**6x36 (1-7-7+7-14)-IWRC** **EN 12385-4 6x36WS-IWRC, ISO 2408, DIN 3064, GOST 7669-80**	ropes for excavators, guy ropes	107
 STS 089.1	**6xK36 (1-7-7+7-14)-FC** **EN 12385-4 6xK36WS-FC**	ropes for excavators	109
 STS 089.2	**6xK36 (1-7-7+7-14)-IWRC(K)** **EN 12385-4 6xK36WS-IWRC (K)**	ropes for excavators	110
 STS 3064.1 K	**6xK36 (1-7-7+7-14)-FC** **EN 12385-4 6xK36WS-FC**	ropes for various load-lifting machinery, including excavators	111
 STS 3064.2 K	**6xK36 (1-7-7+7-14)-IWRC** **EN 12385-4 6xK36WS-IWRC**	ropes for various load-lifting machinery, including excavators	112

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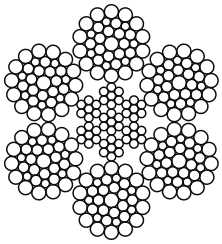
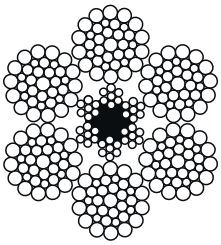
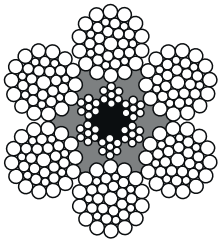
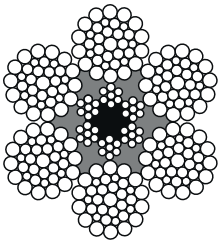
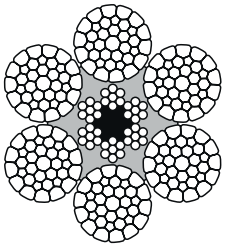
 STS 011	**6x36 (1-7-7+7-14)-IWRC** **EN 12385-6 6x36WS-IWRC,** **ТУ У 28.7-26209430-011:2006**	mining lifting ropes for vertical shafts	**113**
 STS 043	**6x36 (1-7-7 + 7-14) -IWRC** **EN 12385-6 6x36WS-IWRC** **ТУ У 28.7-26209430-043:2006**	mining lifting ropes for vertical shafts	**114**
 STS 049	**6x36 (1-7-7+7-14)-EPIWRC «Metaplast»** **EN 12385-6 6x36WS- EPIWRC,** **ТУ У 28.7-26209430-049:2012**	ropes for vertical shaft multi-rope and single-rope hoisting plants with friction pulleys and hoisting plants with drum machines	**115**
 STS 096 MP 6	**6x36 (1-7-7+7-14)-EPIWRC «Metaplast 6»** **EN 12385-6 6x36WS -EPIWRC,** **ТУ У 25.9-26209430-096:2016**	lifting steel ropes adapted with improved technical parameters for mine lifting installations with pulleys of friction and drum-type coal and iron-ore mines with a depth of more than 1000m	**116**
 STS 096 MP 6 K	**6xK36 (1-7-7+7-14)-EPIWRC «Metaplast 6K»** **EN 12385-6 6x36WS-EPIWRC,** **ТУ У 25.9-26209430-096:2016**	lifting steel ropes adapted with improved technical parameters for mine lifting installations with pulleys of friction and drum-type coal and iron-ore mines with a depth of more than 1000m	**117**

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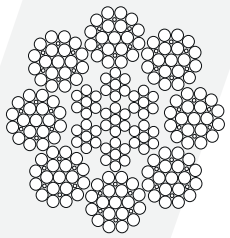
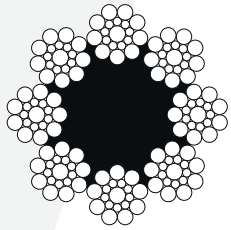
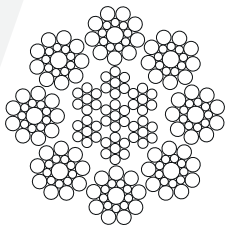
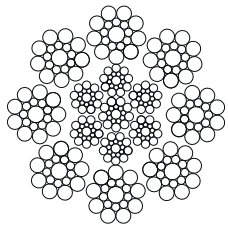
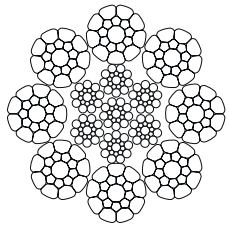
 STS 3061.2	**8x25 (1-6-6F-12)-IWRC** **EN 12385-4 8x25F-IWRC, ISO 2408, DIN 3061 SE**	ropes for hoisting transport machines	118
 STS 3062.1	**8x19 (1-9-9)-FC** **EN 12385-5 8x19S-FC, ISO 2408, DIN 3062 FE**	ropes for elevators and hoisting transport machines	119
 STS 3062.2	**8x19 (1-9-9)-IWRC** **EN 12385-5 8x19S-IWRC, ISO 2408, DIN 3062 SE**	ropes for elevators and hoisting transport machines	120
 STS 3062.2 S	**8x19 (1-9-9)-IWRC (7x19S)** **EN 12385- 4 8x19S-IWRC, ISO 2408**	ropes for hoisting transport machines	121
 STS 3062.2 K	**8xK19 (1-9-9)-IWRC (7x19S)** **EN 12385- 4 8xK19S-IWRC, ISO 2408**	ropes for hoisting transport machines	122

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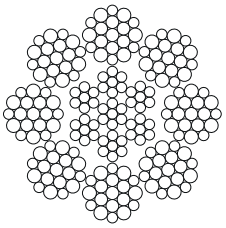
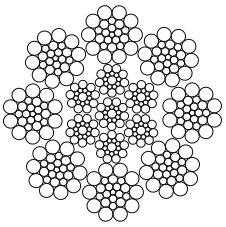
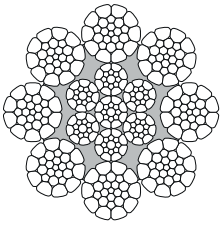
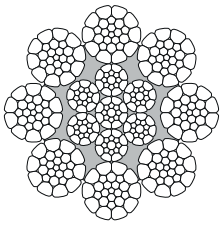
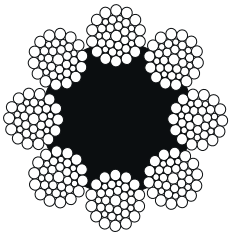
 STS 3063.2	**8x19 (1-6-6+6)-IWRC** **EN 12385-4 8x19W-IWRC, ISO 2408, DIN 3063 SE**	ropes for hoisting transport machines	123
 STS 101.2	**8x26 (1-5-5+5-10)-IWRC** **EN 12385-4 8x26WS-IWRC, ISO 2408**	ropes for hoisting transport machines	125
 STS 101	**8xK26 (1-5-5+5-10)-EPIWRC** **EN 12385-4 8xK26WS-EPIWRC, ISO 2408**	ropes for hoisting transport machines	126
 STS 101.6	**8xK26 (1-5-5+5-10)-EPIWRC** **EN 12385-4 8xK26WS-EPIWRC, ISO 2408**	ropes for hoisting transport machines	127
 STS 3067.1	**8x36 (1-7-7+7-14)-FC** **EN 12385-4 8x36WS-FC, ISO 2408, DIN 3067 FE**	ropes for hoisting transport machines	128

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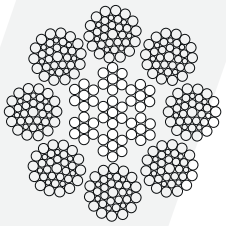
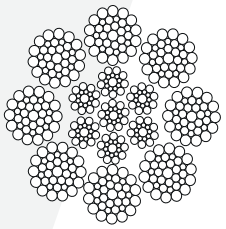
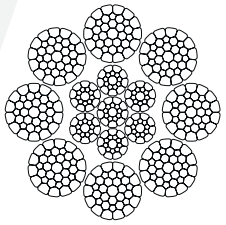
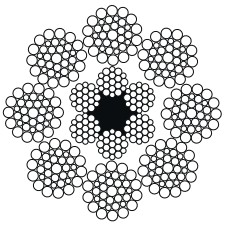
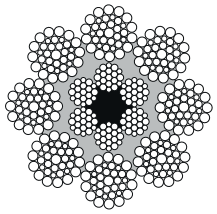
 STS 3067.2	**8x36 (1-7-7+7-14)-IWRC** **EN 12385-4 8x36WS-IWRC, ISO 2408, DIN 3067 SE**	ropes for hoisting transport machines	129
 STS 3067.2 S	**8x36 (1-7-7+7-14)-IWRC(7x19S)** **EN 12385-4 8x36WS-IWRC(7x19S), ISO 2408, DIN 3067 SE**	ropes for hoisting transport machines	130
 STS 092.1	**8xK36 (1-7-7+7-14)-IWRC(K)** **EN 12385-4 8xK36WS-IWRC (K)**	ropes for various load-lifting machinery, including excavators	131
 STS 010	**8x36 (1-7-7+7-14)-IWRC** **EN 12385-6 8x36WS-IWRC , ТУ У 28.7-37169384-010: 2011**	mining lifting ropes for vertical shafts, hauling and lifting ropes for excavators	132
 STS 010 MP8	**8x36WS-EPIWRC** **EN 12385-6 8x36WS-EPIWRC, ТУ У 28.7-37169384-010: 2011**	mining lifting ropes for vertical shafts, hauling and lifting ropes for excavators	132

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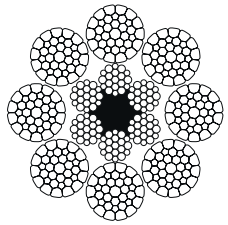
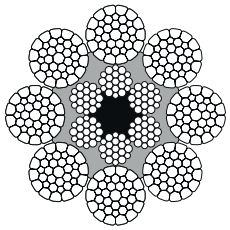
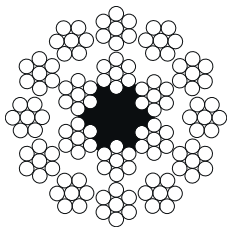
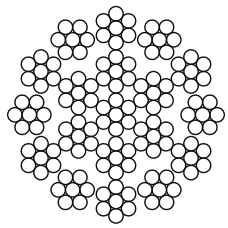
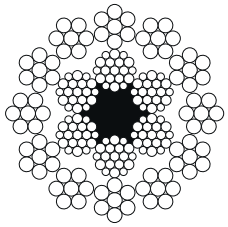
 STS 010 8K	**8xK36(1-7-7+7-14)-IWRC** **EN 12385-6 8xK36WS-IWRC, ТУ У 28.7-37169384-010:2011**	mining lifting ropes for vertical shafts, hauling and lifting ropes for excavators	**133**
 STS 010 MP8K	**8xK36(1-7-7+7-14)-EPIWRC** **EN 12385-6 8xK36WS-EPIWRC, ТУ У 28.7-37169384-010:2011**	mining lifting ropes for vertical shafts, hauling and lifting ropes for excavators	**133**
 STS 3069.1	**18x7(1-6)-FC** **EN 12385-4 12x7-IWRC, ISO 2408, GOST 16828**	multi-purpose lifting ropes	**134**
 STS 3069.2	**18x7-WSC** **EN 12385-4 18x7-WSC, ISO 2408, DIN 3069 SE**	multi-purpose lifting ropes	**136**
 STS 16828	**12x7(1-6)-IWRC** **EN 12385-4 12x7-IWRC, ISO 2408, GOST 16828**	multi-purpose lifting ropes	**137**

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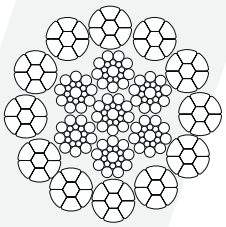
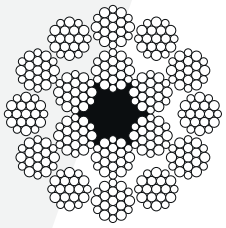
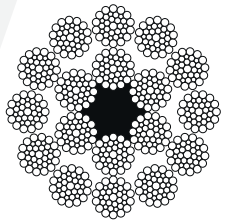
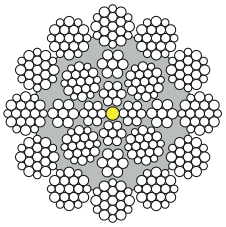
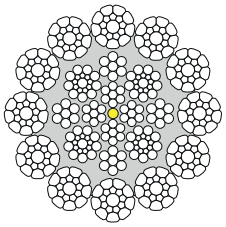
 STS 105	**12xK7(1-6)-IWRC** **EN 12385-4 12xK7-IWRC, ISO 2408**	ropes for hoisting transport machines, mining lifting ropes	138
 STS 3088	**18x19(1-6-6+6)-FC** **EN 12385-4 18x19W-FC, ISO 2408, GOST 3088**	multi-purpose lifting ropes	139
 STS 16827	**12x36(1-7-7+7-14)-IWRC** **EN 12385-4 12x36WS-IWRC, ISO 2408, GOST 16827**	multi-purpose lifting ropes	140
 STS 121	**12x19(1-6-6+6)-EPIWRC** **EN 12385-6 12x19W-EPIWRC, ISO 2408**	mining lifting ropes for vertical shafts, balance rope	141
 STS 121.1	**12xK19(1-9-9)-EPIWRC** **EN 12385-6 12xK19S-EPIWRC, ISO 2408**	mining lifting ropes for vertical shafts	142

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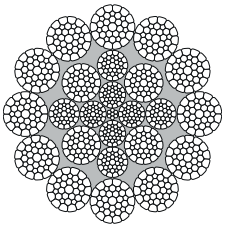
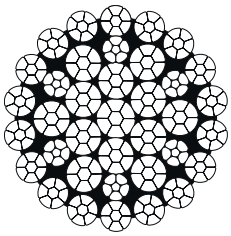
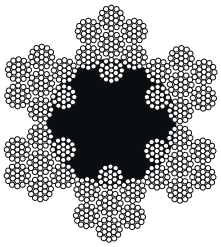
 STS 121.2K	**12xK36(1-7-7+7-14)-EPIWRC** **EN 12385-6 12xK36WS-EPIWRC, ISO 2408**	mining lifting ropes for vertical shafts, balance rope	**143**
 STS 100	**16xK7-EPIWRC(K)** **EN 12385-4,6 16xK7-EPIWRC(K) ISO 2408**	rotation-resistant ropes for cranes, mining lifting ropes	**144**
 STS 3089	**6x6x19(1-6-6+6)-FC** **EN 12385-4 6x6x19W-FC, ISO 2408, GOST 3089**	multi-purpose lifting ropes	**145**

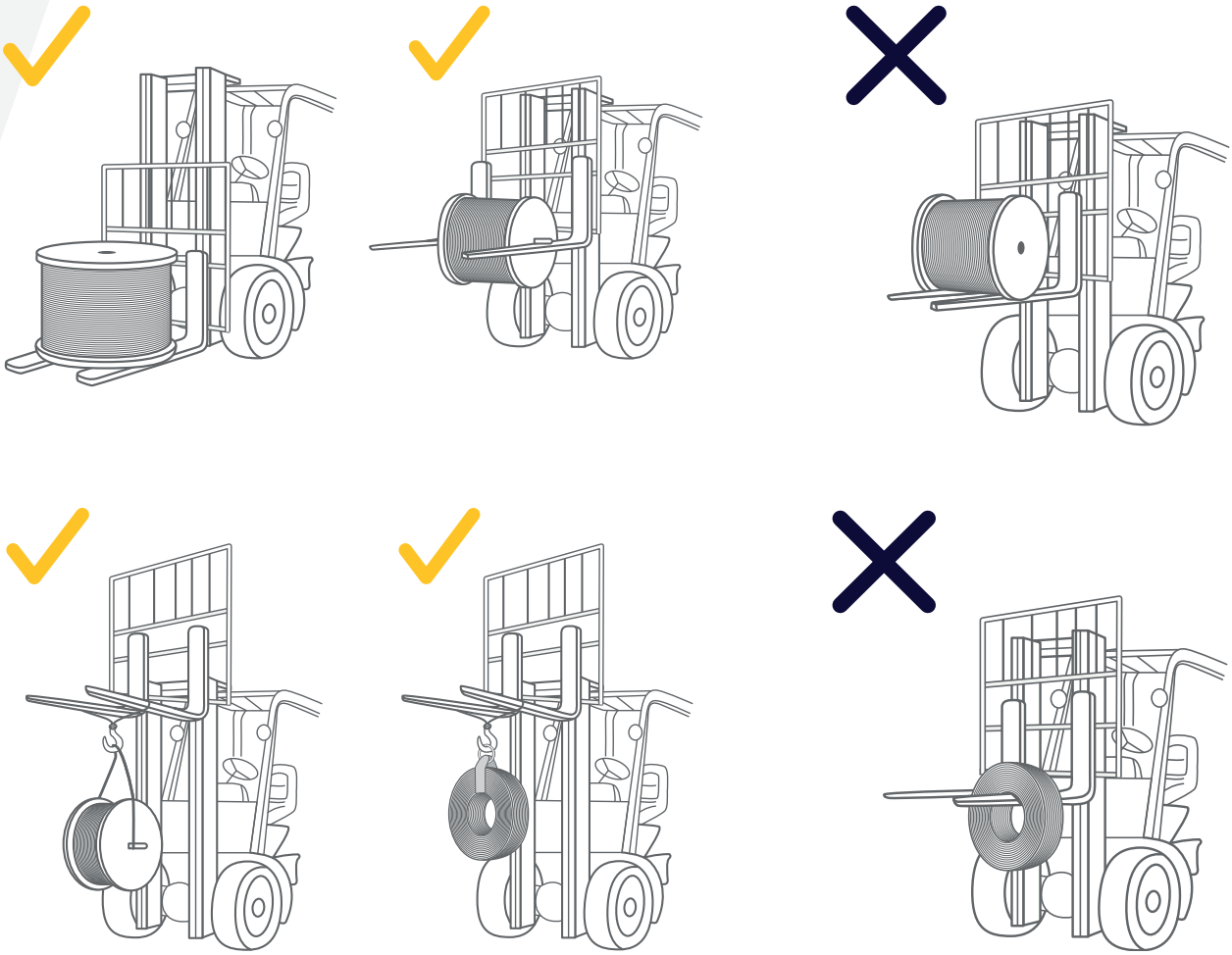
Advice for transportation, storage, installation and operation of steel ropes

Transportation

1. Ropes are transported by all types of transport in covered and open vehicles in accordance with the rules for the carriage of goods applicable for this type of transport. Placement and securing of cargo during rail transportation is carried out in accordance with the Rules for loading and securing cargo.

2. Ropes are supplied on drums or in coils depending on the diameter, length of the rope and on customer's requirements.

3. Upon the rope delivery to the place of storage or installation, the drum must be removed from the vehicle by means of load-lifting mechanisms in a way to prevent damage of the rope and drum. It is prohibited to throw the drum with the rope off the vehicle or to remove it in ways that may result in its damage or disruption of the layer of conservation grease. During such operation, the rope itself should not come into contact with any part of the lifting mechanism, such as a crane hook or forklift fork. It is preferable to use textile slings.



Rope acceptance procedure

1. Immediately after delivery, condition of the rope, compliance with the quality certificate and order requirements should be inspeted. Rope marking should be checked to ensure that it is clear and complies with the quality certificate. If damage of the rope or its packaging is detected, it must be recorded on the acceptance statement.

2. Manufacturer Quality certificate of the rope should be stored in a safe place, for example, with the crane operating manual for identifying the rope during periodic comprehensive inspections of the rope. The owner has no right to use the rope for lifting without the quality certificate.

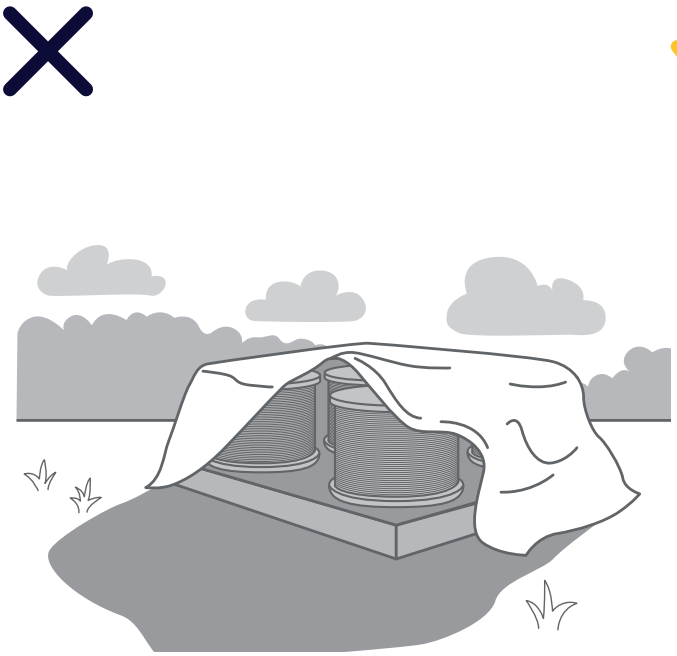
Storage of ropes

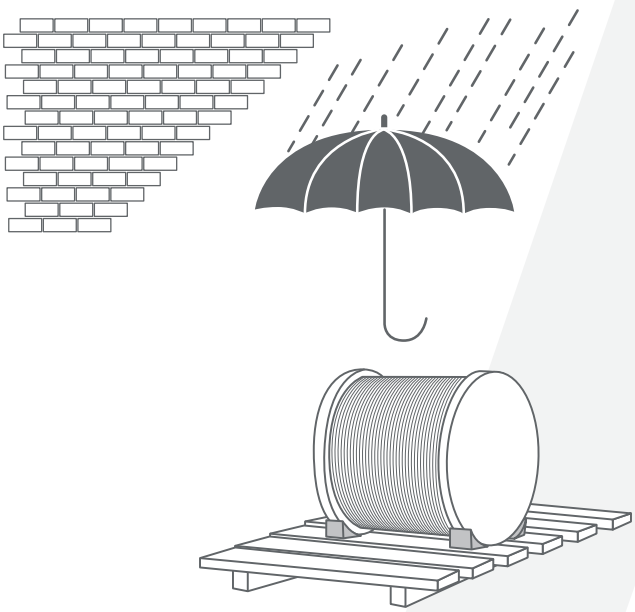
1. The ropes received for storage are subject to immediate inspection, all parts that lack greasing after transportation and unloading should be lubricated with special rope lubricant.

In this case, the lubricant must be compatible with the one used by manufacturer.

2. When unloading and store-keeping, do not violate the integrity of the drum, packaging, lubrication and avoid mechanical damage to the steel rope.

3. Rope storage should be carried out in clean, dry and ventilated facilities (where temperature and humidity fluctuations do not significantly differ from those in the open air in macroclimatic regions with a temperate and cold climate in any type of atmosphere), in conditions that exclude effect of atmospheric precipitation, as well as chemical vapors, steam, saline or any other corrosive substances. Failure to comply with this condition may lead to contamination of the rope with pollutants that may cause corrosion even before its commissioning.





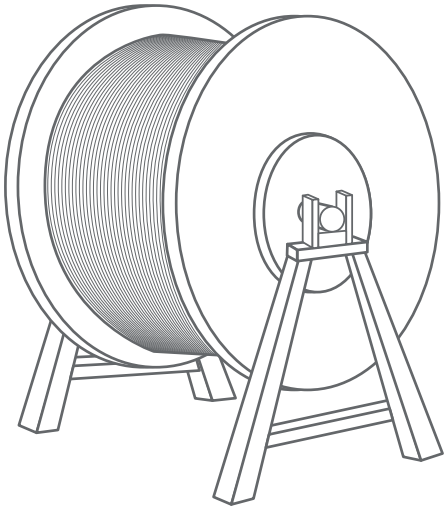
4. Make sure of keeping a steel rope away from heat sources that can result in thinning of the lubricant layer and its runoff from the rope.

5. When the consumer is storing a rope on a drum, the axis of the drum must be parallel to the floor where the drum has been installed.

The drum should be positioned so that the space under it is ventilated. Do not stack drums directly on the ground. They should be installed on special flooring, liner-bars or racks. Preferably, the drum should rest on an A-frame or a support, mounted on the floor, that is capable of safely supporting the total weight of the rope and drum.

6. If the rope is supplied on a transport drum, then during the long periods of storage, especially in a warm environment, the drum must be shifted periodically to prevent lubricant from non-uniform distribution in the rope. It is also necessary to periodically (at least once every 6 months) inspect ropes outer layer and lubricate it with compatible lubricant.

7. When decommissioning a rope for storage and further use, it is necessary to place it on the drum after thorough cleaning and lubrication. Used rope should be given the same attention as a new rope while storing.



8. Make sure that the conditions of storage and protection of ropes completely exclude any possibility of their damage at the time of placement into the warehouse, during storage or removal from the warehouse. Neglecting these recommendations can lead to a loss of strength of the rope and a decrease in its operating time or even its complete unsuitability for operation.

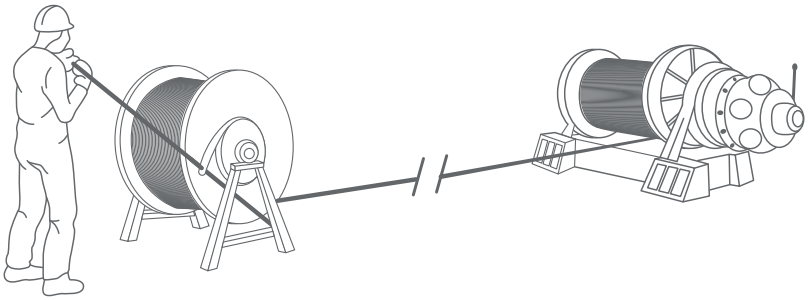
Rope unwinding

1. To unreel a rope that was delivered in a coil, it is necessary to put it on the floor vertically, after that roll it in a straight line by holding the free end of the rope avoiding contamination of the rope with dust, sand, moisture or other harmful materials.

2. It is unacceptable to unreel the rope from a fixedly laid flat coil, as this will lead to rope twisting and the formation of loops in it.

3. The coil can be placed on a turntable, which will allow unreeling the rope by pulling on its outer end.

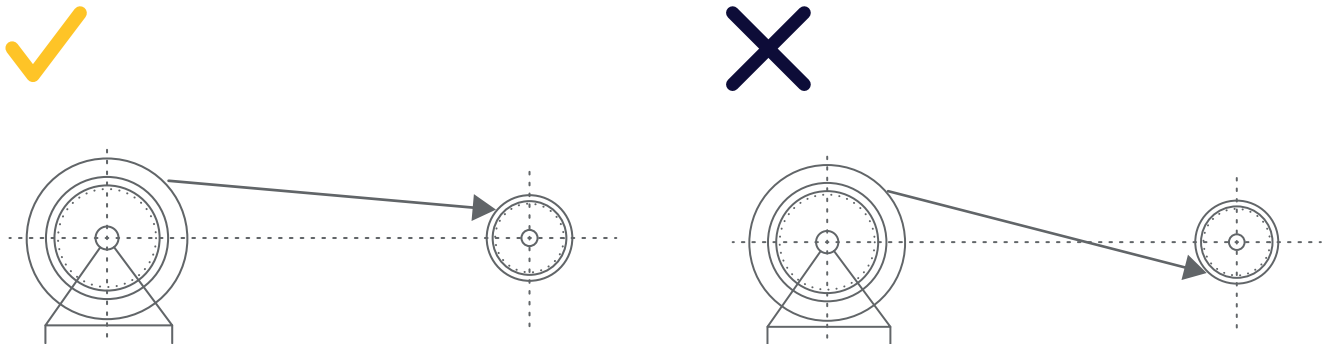
4. To unreel the ropes delivered on a transport reel, special spooling devices should be used to ensure the horizontal location of the reel axis and which are equipped with a braking device to create a rope tension in order to avoid loops and creases. Rope unreeling without using a braking device, as well as without creation of tension by braking the rope itself, is prohibited.



5. Installation of a transport reel into the spooling device is carried out by means of a shaft with sufficient strength, which is passed through the axial opening of the reel.

6. The transport reel should be positioned so that the deviation angle during unreeling be minimized (1.5° max). The distance between the reels (or between the reel and the guide pulley) must be at least 300 diameters of the rope. The diameter of the neck of the transport reel must be at least 15 nominal diameters of the rope. Failure to comply with this condition may cause damage to the rope when unreeling it.

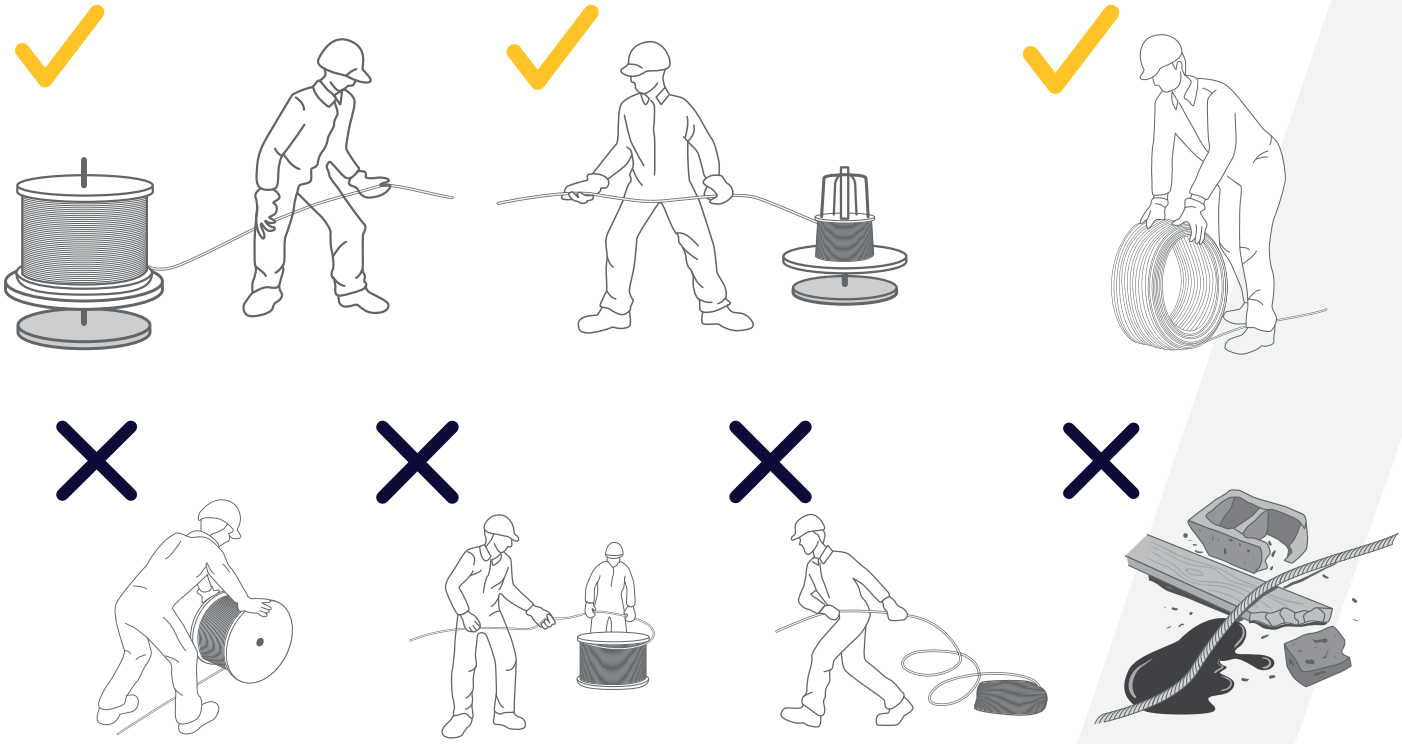
7. During unreeling, the alternating bending of the rope is not allowed. Unreeling from a wooden drum and reeling onto the winch drum (the bypass mechanism drum) should be done from bottom to bottom. In some cases, it is allowed to rewind from top to the top.



8. Releasing the outer end of the rope on a transport drum or on a coil should be carried out with extreme caution to avoid injury.

9. It is strictly forbidden to unreel the rope from the drum by dropping the wraps and then laying them into coils.

10. It is forbidden to stretch the rope on the ground before mounting it in order to measure the length or for other purpose. Length measurement should only be carried out on unreeling devices equipped with verified length counters.



Cutting off the rope

1. When cutting a rope (for measured lengths, for testing etc.), bandages (rope seizing) of soft wire should be applied on both sides of the cut. The number and width of the bandages, depending on the diameter of the rope, must correspond to the values shown in table. The distance between the bandages must be at least one lay length.

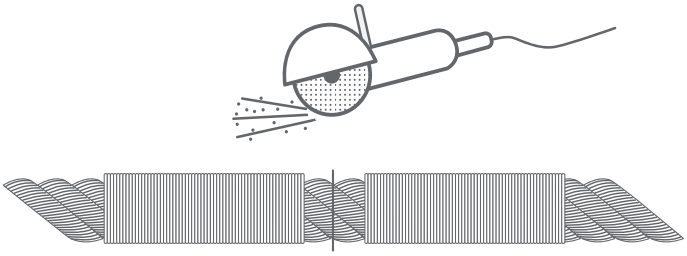
Parameters of the bandages (seizing)

Rope diameter, mm	Number of bandages for the rope, the least		Width of seizing, mm, the least
	Ordinary lay	Lang lay	
Up to 14.5	1*	1*	10
15.0-24.5	3	3	25
25.0-30.5	3	4	40
31.0-44.5	3	4	50
45.0-50.5	3	4	75
More than 51.0 **	3	4	100

* or the end of the rope should be welded up.

** the ends of ropes with a metal core with diameter that exceeds 57.0 mm should be welded up.

2. When cutting spiral supporting ropes, closed-type hoisting ropes, as well as multilayer stranded ropes at each end of the rope, it is necessary to install two four-bolt clamps rotated relative to each other by 90°, with a distance between them equal to 2 to 4 rope diameters. Instead of two four-bolt clamps, you can install eight two-bolt clamps close to each other, with a width of each clamp equal to the diameter of the rope.



Before removing the clamps, the ends of the rope should be securely welded up.

3. It is forbidden to cut ropes using electric welding.

4. Lack of proper ties on the rope when cutting can lead to deformation of the rope.

Rope instalation

1. After transporting the rope to the work place, it must be inspected for damage.

2. Before installing a new rope, it is necessary to check the condition and parameters of the elements of the machine, equipment or device interacting with the rope, for example, drums, sheaves, guide rollers, etc. for the fact that they are within the recommended limits.

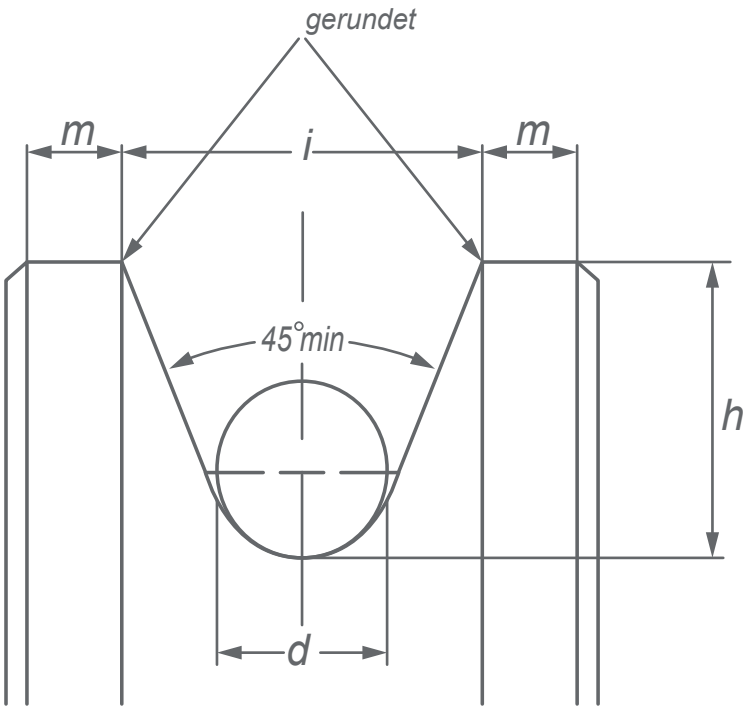
3. Special attention should be paid to the parameters and condition of the pulley grooves of the system and pulley grooves of the drums of the corresponding winch. The diameter of the pulley groove should be 7.5% larger than the nominal diameter of the rope. Its control is carried out by means of special control gauges.

4. It is forbidden to use ropes with traces of wear, violation of the surface smoothness or mismatch of the parameters of the grooves of the pulleys, blocks and drums.

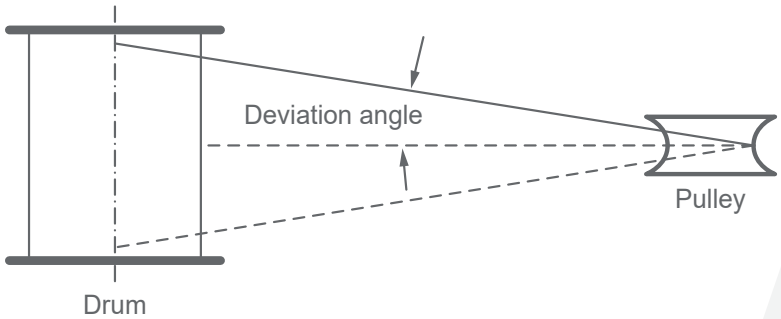
5. Too narrow pulley grooves will pinch and deform the rope, violating its structural integrity, which can lead to premature rope breakdown. Too large pulley grooves will create insufficient support, which will lead to increase in contact pressure and premature destruction of the rope wires.

6. The pitch of grooving on the winch drum should correspond to 1.15 dr - for ropes with a diameter of up to 10 mm, 1.12 dr - for ropes with a diameter of up to 20 mm and 1.11 dr - for ropes with a diameter of more than 20 mm (dr - diameter of the rope). Under any circumstances the actual diameter of the rope should be greater than the pitch of grooving on the equipment drum.

7. The opening angle between the sides of the groove should be within 45 to 60°. The opening angle of 30 to 45 ° is allowed at deviation angles less than 1° only.



8. The deviation angles when reeling the rope onto the drum should be within 0.5° to 2.5°. It is necessary to limit the deviation angle to 2.5° for the drums with grooving and to 1.5° for smooth drums. When using non-rotating, rotation-resistant ropes and parallel-closed ropes (i.e., ropes in which strands and cores are twisted into a rope in one operation), the deviation angle should be limited to 1.5°.



9. All sheaves must be well-balanced. The sheave support must maintain its straight position. The propelling sheave must be aligned with the center of the lifting drum. To ensure the turning force and smooth rotation, all sheaves must be properly lubricated.

10. The diameter and number of sheaves in the system affect the operating time of the rope. The lifespan of ropes working on sheaves and winches majorly depends on correctly chosen rope dimensions and a correct ratio of the winch drum diameter to the rope diameter Dd / dr. Standards for various operating conditions for ropes usually indicate the minimum allowable values of D_d / d_r.

Recommendations for selection of diameters of the winch drum and grooves for universal steel ropes of various constructions (D_d /d_r)

Construction in acc. with EN and a whole construction		Analogue in GOST	Type of the rope	Recommended	Minimum allowed
6x19W-FC	6x19(1-6-6+6)-FC	2688-80	W	32	27
6x19S-FC	6x19(1-9-9)-FC	3077-80	S	36	31
6x25F-FC	6x25(1-6-6F-12)-FC	7665-80	F	41	26
6x31WS-FC	6x31(1-6-6+6-12)-FC	16853-88	WS	40	23
6x36WS-FC	6x36(1-7-7+7-14)-FC	7668-80	WS	28	22
6x37NS-FC	6x37(1-6/15-15)-FC	3079-80	NS	27	22
6x7-FC	6x7(1-6)-FC	3069-80	S	70	40
6x7-WSC	6x7(1-6)-1x7(1-6)	3066-80	S	75	44
6x19W-IWRC	6x19(1-6-6+6)-7x7(1-6)	14954-80	W	34	29
6x25F-IWRC	6x25(1-6-6F-12)-7x7(1-6)	7667-80	F	42	28
6x31WS-IWRC	6x31(1-6-6+6-12)-7x7(1-6)	16853-88	WS	41	25
6x36WS-IWRC	6x36(1-7-7+7-14)-7x7(1-6)	7669-80	WS	35	23
6x19M-IWRC	6x19(1-9-9)-7x7(1-6)	3081-80	M	42	37
6x37M-FC	6x37(1-6/12/18)-FC	3071-88	M	34	29
6x19M- WSC	6x19(1-6/12)-1x19(1-6/12)	3067-88	M	21	18
6x37M- WSC	6x37(1-6/12/18)-1x37(1-6/12/18)	3068-88	M	40	34

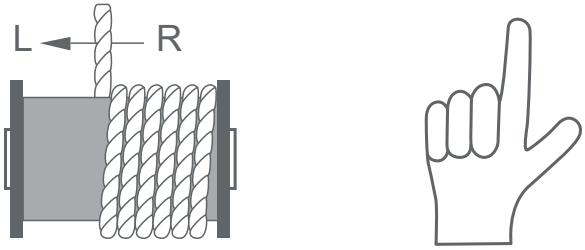
11. For mining ropes, the coefficients Dd/dr are completely different than for other applications and they are regulated by the relevant standards.

12. Such factor as speed may require increased Dd/dr ratio. For some aplications lower than recommended Dd/dr is allowed, but in this case decreased lifespan of rope should be expected.

13. On winches with a single-lay spooling onto the drum, a spiral grooving is recommended. In case of multi-layered spooling, it is recommended to use drums with Lebus grooving.

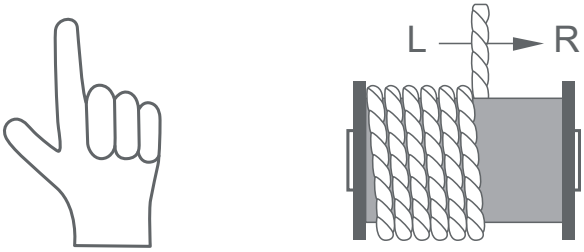
14. Depending on the direction of the rope laying and the direction of its spooling onto the drum, the torsion deformation in the rope may decrease or increase. It is necessary to select the rope so that during the reeling process the rope is additionally twisted up. Under this condition, the density of laying and the associated service life of the rope will be increased. The direction of lay is of particular importance for smooth drums. The choice of the correct lay direction is absolutely necessary for the proper functioning of the reeving system. The use of a left-lay rope, when a right-lay rope should be used (and vice versa), will increase the torque, which will lead to the problems durin reeling and structural damage to the rope. The direction of rope reeling and direction of the winch drum rotation must be taken into account in accordance with Table 3, unless otherwise is specified in the original instructions of the equipment manufacturer.

Choice of the place and direction of rope reeling onto the drum



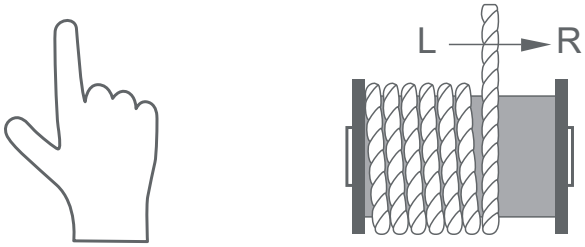
Beginning of rope reeling from the right side of the drum for the right-lay rope

Right-lay rope – reeling from the bottom of the drum



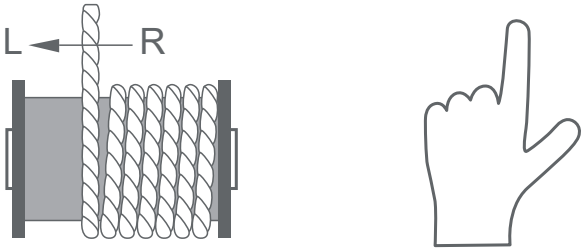
Beginning of rope reeling from the left side of the drum for the left-lay rope

Left-lay rope – reeling from the bottom of the drum



Beginning of rope reeling from the left side of the drum for the right-lay rope

Right-lay rope – reeling on the top of the drum



Beginning of rope reeling from the right side of the drum for the left-lay rope

Left-lay rope – reeling from the top of the drum

The index finger indicates the direction of rope reeling off the drum

Beginning of rope reeling from the left side of the drum for the right-lay rope

The thumb points at the place of rope attachment to the drum

The right or left hand points at the desired direction of rope laying

The rope is reeled from the bottom

The rope is reeled from the top

15. Ropes should be reeled onto the winch drum evenly. The first row of the rope should be reeled onto the drum very tightly, without overlapping and intersection of the subsequent layers, so that the rope will be not damaged during operation.

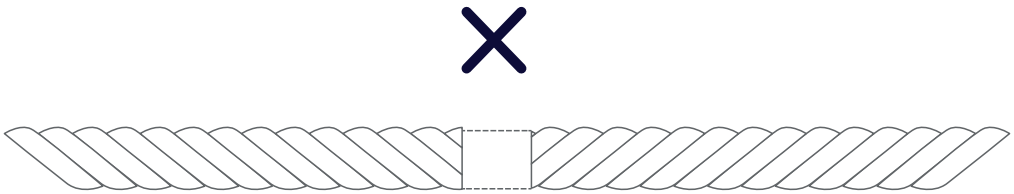
16. As practice shows, the constructions of certain hoisting machines may not be able to meet all recommended requirements, which will reduce the service life of the rope. In this case, it is necessary to inspect the rope more often.

17. The rope can be installed by reeling it onto the drum of the hoisting machine directly from the factory reel or from special winches (winches with a drive and brake, which serve to perform the main work on rope suspending), on which the rope has been re-spooled from the factory reel before.

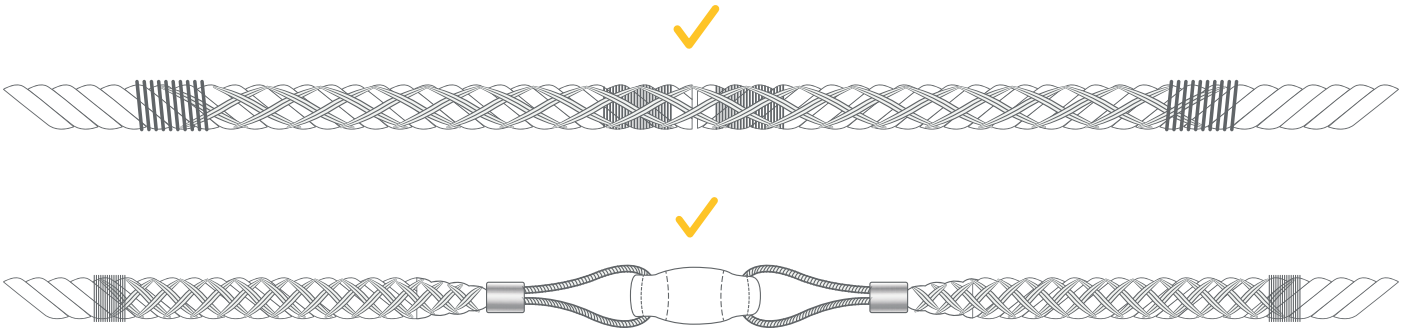
18. A drum shaft with a rope weight of more than five tons is preferably to be installed with rolling bearings, which will significantly simplify the re-spooling process.

19. The transport drum with a rope should be placed as far from the winch drum or the guide roller as possible in order to minimize any influence of the diviation angle, which will prevent from any undesirable effects due to the torsion of the rope.

20. When new rope is being mounted, it is not allowed to connect the old and new ropes having different lay direction. The connection of ropes with different lay direction will lead to rotation of the rope and to the unwinding of the strands when loading the rope.



21. For installation of a new rope by means of an old rope, it is recommended to use rope grippers – “mesh grip” The open end of the “grip” should be securely attached to the rope with a bandage or alternatively with a suitable clamp.

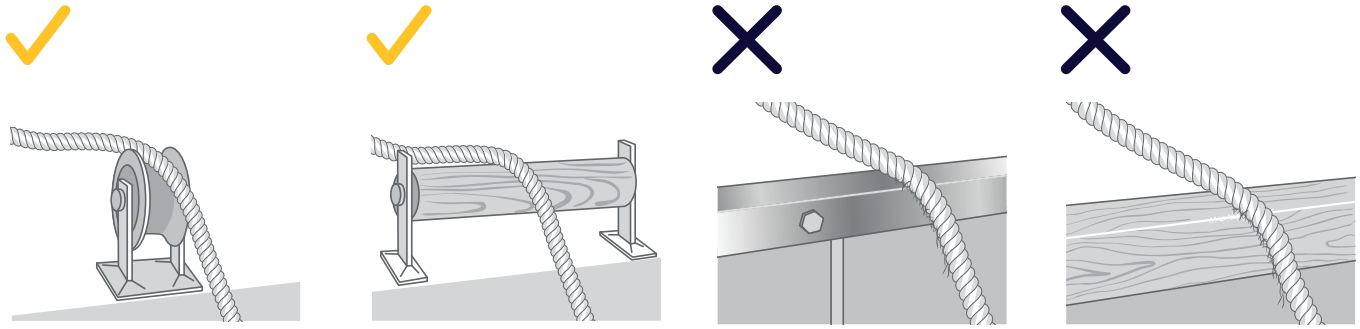


22. It is allowed to connect the ends of the old and new ropes with a piece of rope made of organic materials of sufficient strength in order to prevent rotation transmitted from the old rope to the new one. If a wire rope is used, it must be a type of a rope that resists to rotation, or such a rope must be of the same type and have the same direction of lay, as the new rope has. If the rope was twisted when installing, this may lead to its damage or to rotation of the hook cage.

23. Extremely precise observance of the rules should be taken, when working with ropes with metal core. Moreover, a special attention should be paid to the ropes of parallel and lang lay while being mounted, as they are more prone to untwisting.

24. While mounting the rope, the swivel should not be used.

25. Before mounting the rope into the system, make sure that there are no obstacles in its way in the form of structures or mechanisms that can damage the rope.



26. In the process of reeling, carefully check for rope tension.

27. During installation of the rope, all of its operating parameters and characteristics specified by the manufacturer must be maintained.

28. The rope should be attached to the drum in such a way that when passing through the hole in the cylinder of the drum it is not deformed by the sharp edges of the hole. Fastening of the ends of the rope is made at specificly designed places on the drum, which make it possible to fix the rope in at least three points.

29. When inserting the free end of the rope into the shaft of the mine for connecting to the hoisting conveyance or to the back-weight, a guide frame must be used in order to prevent rope rotation under its own weight. During rope installation, ensure that the wire-line running end of the rope is fixed against rotation around its axis.

Operation

1. Proper reeling, installation and handling of a steel rope significantly prolongs its service life. Maintenance, replacement, cutting, and installation of the rope should be carried out under supervision of a competent employee of the enterprise, in accordance with the prescribed labor safety measures, instructions of the equipment manufacturer and supervisory authorities.

2. Double lay ropes with fibre cores or organic cores may be used at temperature of up to 100° C. Double-lay ropes with metal cores and regular-lay ropes may be used at temperature up to 200° C, while some reduction in the minimum breaking load is necessary, the value of which depends on the time of exposure to high temperature and on the diameter of wires. At operating temperatures between 100° C and 200° C, the loss in strength is about 10%. At temperatures between 200° C and 300° C - 25%, between 300° C and 400° C - 35%. Therefore, if necessary, you should consult with the producer of the rope.

3. Rope operation at low temperatures (less than -40° C) will not adversely affect the strength of steel wire ropes, therefore there is no need to reduce the minimum breaking load. However, depending on the effectiveness of rope lubrication, at low temperatures the strength characteristics of the rope may be reduced. When operating at temperatures below -40° C and above 80° C, special rope lubricants should be used.

4. Since in the initial period of operation there is a constructive lengthening of the rope and redistribution of stresses in the rope, it is necessary to trial run it in and tighten it. Trial-run and tightening of the rope should be done with a gradual increase in load and speed. This will ensure the gradual stabilization of internal stresses in the rope and allow it to be adapted to the working conditions.

5. The following rope running mode is recommended: at least 5 cycles (the cycle includes rope reeling on the winch drum and its subsequent unreeling) without a load, 5 cycles at a load of 10% of the maximum force during operation, 5 cycles at a load of 20-30%, 5 cycles with a load of 50%, then 5 cycles with a maximum load, and finally reel the rope onto the drum with a force of about 10%. Repeating the cycles with each load is performed with a gradual increase in speed from minimum to nominal one.

6. It is forbidden to trial-run and tighten ropes with a maximum load, or even more - with an overload.

7. After installing, trial-run and tightening the ropes, it is necessary to inspect the ropes and securing points, only if there are no abnormalities, it is allowed to carry out their operation in the normal mode.

8. In the process of rope operation, it is necessary to inspect the condition of sheaves, blocks, drums. For normal rotation, they must be fault-free and lubricated. Do not allow rope friction against the structural elements, soil, etc. To avoid damage to the rope, where necessary, installation of supporting or deflecting rollers is required.

9. In case of multilayered winding onto the drum, it is recommended to use ropes with metal cores and compacted strands, which are more resistant to crushing and deformation.

10. In order to reduce rope wear in certain areas and, hence, to prolong service life of the rope, we recommend to shorten the rope after operation for a definit period of time by cutting off a piece from the end attached to the winch drum. Thus, the most worn rope sections will be shifted, giving way to undamaged rope sections. The trimming operation of ropes intended for severe operating conditions should be carried out with a certain frequency, without waiting for the complete abrasion of the rope.

11. In case of multi-layered reeling of the rope onto the drum, it is recommended to use it full length (excluding friction coils). If it is intended to use only a certain part of the rope for a long time, then it should be replaced with a shorter one.

12. During operation, slacking and lapping of the rope should be avoided.

13. Avoid actions that cause transverse swaying of the rope during operation.

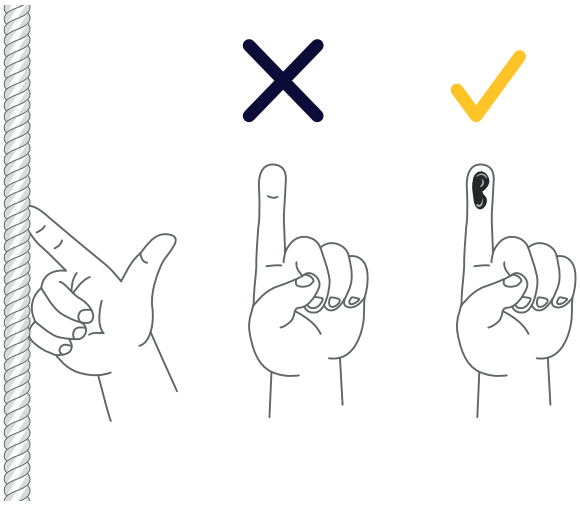
Lubrication of the rope

1. To protect ropes from corrosion and abrasive wear during operation, it is necessary to regularly lubricate their surfaces with rope lubricants approved for use in the established procedure, only after having previously cleaned the rope of old grease and dirt. It is forbidden to use solvents and other cleaning substances.

2. The ropes service lubricant must be compatible with the original factory one. Impure or used greases are not allowed for use. The type and method of lubricant applying should ensure a uniform covering of all wires of the rope with a thin layer.

3. The frequency of lubrication should be selected on the base of specific operating conditions and maintenance of the integrity of the lubricating layer on the rope surface (and for mine ropes - at least once a month).

4. When inspecting ropes under a pitcher, clamps, etc. these places of the ropes should also be lubricated.



5. When using “dry” cables, the intervals between inspections should be reduced. The performance of a “dry” rope, subjected to bending fatigue (but without corrosion), often reaches only 30% of the performance of a lubricated rope.

Rope inspection and its rejection

1. The condition of the rope and the hoisting equipment shall be checked before the start of each work shift. Especially thorough checks shall be performed after abnormal situations that could cause damage to the rope or equipment.

2. The rope is to be checked along its entire length, with special attention paid to those sections that are the main potential areas of damage. Excessive wear, broken wires, deformation and corrosion are common signs of damage.

3. If the ropes work on drums or sheaves, special attention should be paid to inspection of areas of entry or exit from the troughs under maximum loads and areas that for a long time remain under the effect of the environment, for example, in the area of hoisting sheaves.

4. The intervals for carrying out inspection and due surveying, as well as the criteria for rejection, should meet the requirements of the following standards (unless any other standard or regulatory document is applied):

- Steel wire ropes for cranes - ISO 4309;
- Steel wire ropes for mining - ISO 4309 or BS 6570;
- Steel wire ropes for elevators - ISO / FDIS 4344;
- Steel wire ropes for aerial cableways - prEN 12927-7;
- Steel wire ropes for the oil and gas industry - API RP54, API RP 9B.

5. Detailed information on the maintenance, inspection, and rejection of steel ropes can be found in the listed European standards, as well as in the standards established by the regulatory and supervisory authorities of countries in which ropes are used.

6. To estimate safety of further rope operation, the following criteria are used:

a) the nature and number of broken wires, including presence of broken wires at the terminations, presence of broken wire concentration points, intensity of increasing in broken wires number;

b) strand break;

c) surface and internal wear;

d) surface and internal corrosion;

e) local reduction of the rope diameter, including break of the core;

e) reduction of the cross-sectional area of wires of rope;

g) deformation in the form of waviness, basket shape, extrusion of wires and strands, crushing of strands, bends, kinks, etc.;

h) damage as a result of temperature effects or electric arc discharge.

7. During visual inspection the steel rope shall not have visible defects. Special attention during the inspection shall be paid to the fact that the ropes have no knots and loops, buckling strands or twisting, torn strands and individual wires, signs of surface wear.

8. Presence of a gap between the strands in the ropes with a metal core, protruding fluff of the fiber core between the strands in the ropes with a fiber core, as well as presence of one or several galvanized wires in the ropes without coating, are not the grounds the for rope rejection. Ropes with a fibre core may have gaps between the strands, threby the diameter of the rope must not exceed the indicated maximum deviations.

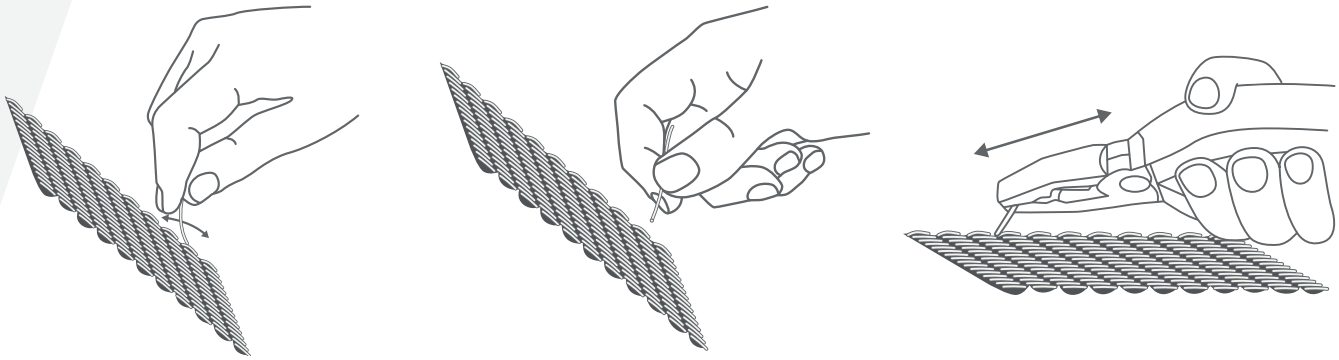
9. Rejection of steel ropes in operation is made according to the number of broken wires at a certain length.

10. Wire breakage is a normal occurrence in rope operation, especually common at the end of its service life as a result of wear and bending fatigue. While local wire breakage may indicate mechanical failure of the equipment.

11. Before inspection, the rope should be cleaned of old grease, dirt and wear products. On examination, rope sections with the largest number of broken wires are to be found. Usualy, these are the rope segments that undergo the largest number of kinks on the blocks and are reeled onto the drum. It is on these sections of the rope that it is necessary to determine the absolute number of broken wires.

12. The number of broken wires is determined visually or by means of detectoscopy. For the convenience of visual counting of the number of broken wires, the rope should be slightly bent. Thereby, the number of wire breaks should not be confused with the number of ends of broken wires, which is always twice as large.

13. The ends of the broken wires must always be removed from the rope, by their reverse bending with pliers until the wires break deep in the gap between the two outer strands. It is not allowed to leave the broken wires, as they, will cause destruction of the neighboring wires, in the process of loaded rope repeatedly running through the blocks.



14. The number and location of the removed ends of the broken wires should be recorded in the log for their subsequent consideration when rejecting the rope according to the criterion of broken wires.

15. Steel ropes, in which the number of wire breaks at a specified length did not reach the rate of rejection or having acceptable surface wear of wires, may be allowed for further operation subject to careful observance of their condition, increasing of frequency of inspections and making appropriate records in the crane log. As soon as norms of rejection are fulfilled, these ropes are subject to rejection and replacement.

Other requirements

1. Any other requirements for steel rope operation, the presence of which are not obligatory, are established by the operating organization depending on the type of hoisting mechanism, operating conditions and requirements of the European standards, as well as the standards established by the regulatory and supervisory authorities, internal regulations that do not contradict these regulations, approved in the prescribed procedure by the operating organization.

2. All warranties of quality, performance, or suitability of a steel rope for use, whether expressed or implied, always assume that the specified strength values apply only to a new, unused rope, that this rope is used on nonfaulty equipment of a relevant design, that storage, handling, use, maintenance of ropes are made in accordance with the established requirements, with regular inspections during their operation.

3. The seller shall under no circumstances be liable for consequential or incidental damages, or for subsequent claims, including but not limited to injuries, labor costs or loss of profits arising from the use of these products, or inclusion of these products as a component to any other products.

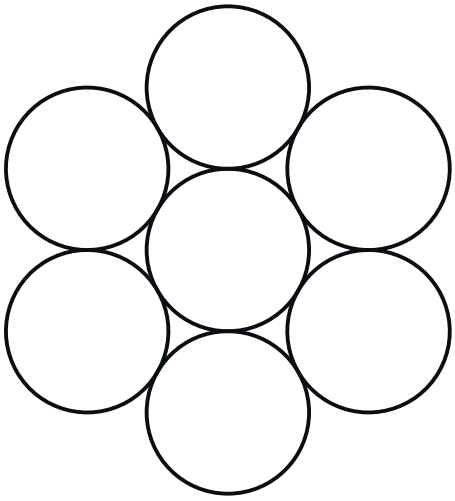
STEEL WIRE ROPES

schedules

STALKANAT

1x7(1-6)

EN 12385-4 1x7, ISO 2408, DIN 3052, GOST 3062-80



STS 3052

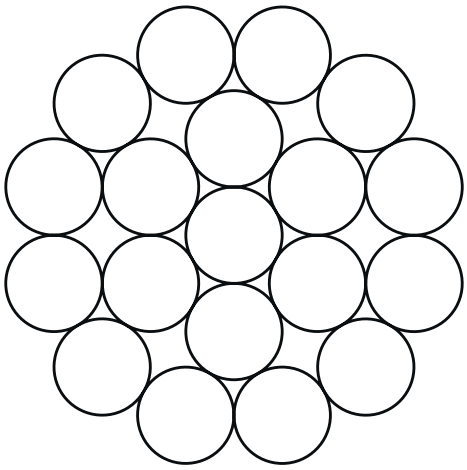
Application: seizing ropes, guy ropes, shrouds, guides for overhead circuits

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
0,90	0,0041	0,769	0,867	0,960	0,692	0,780	0,864
1,00	0,0050	0,950	1,07	1,19	0,855	0,963	1,07
1,10	0,0061	1,15	1,30	1,43	1,03	1,17	1,29
1,20	0,0072	1,37	1,54	1,71	1,23	1,39	1,54
1,40	0,0098	1,86	2,10	2,32	1,67	1,89	2,09
1,50	0,0113	2,14	2,41	2,67	1,92	2,17	2,40
1,60	0,0128	2,43	2,74	3,03	2,19	2,47	2,73
1,80	0,0163	3,08	3,47	3,84	2,77	3,12	3,46
2,00	0,0201	3,80	4,28	4,74	3,42	3,85	4,27
2,20	0,0243	4,60	5,18	5,74	4,14	4,66	5,16
2,40	0,0289	5,47	6,17	6,83	4,92	5,55	6,14
2,50	0,0314	5,93	6,69	7,41	5,34	6,02	6,67
2,80	0,0393	7,44	8,39	9,29	6,70	7,55	8,36
3,00	0,0452	8,55	9,63	10,7	7,69	8,67	9,60
3,10	0,0482	9,13	10,3	11,4	8,21	9,26	10,3
3,40	0,0580	11,0	12,4	13,7	9,88	11,1	12,3
3,50	0,0615	11,6	13,1	14,5	10,5	11,8	13,1
3,70	0,0687	13,0	14,7	16,2	11,7	13,2	14,6
4,00	0,0803	15,2	17,1	19,0	13,7	15,4	17,1
4,30	0,0928	17,6	19,8	21,9	15,8	17,8	19,7
4,50	0,102	19,2	21,7	24,0	17,3	19,5	21,6

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
4,90	0,121	22,8	25,7	28,5	20,5	23,1	25,6
5,00	0,125	23,7	26,8	29,6	21,4	24,1	26,7
5,20	0,136	25,7	28,9	32,1	23,1	26,1	28,8
5,50	0,152	28,7	32,4	35,9	25,9	29,1	32,3
6,00	0,181	34,2	38,5	42,7	30,8	34,7	38,4
6,20	0,193	36,5	41,1	45,6	32,8	37,0	41,0
6,80	0,232	43,9	49,5	54,8	39,5	44,5	49,3
7,00	0,246	46,5	52,5	58,1	41,9	47,2	52,3
7,40	0,275	52,0	58,6	64,9	46,8	52,8	58,4
8,00	0,321	60,8	68,5	-	54,7	61,7	-
8,60	0,371	70,2	79,2	-	63,2	71,3	-
9,00	0,407	76,9	86,7	-	69,2	78,0	-
9,80	0,482	91,2	103	-	82,1	92,5	-
10,00	0,502	95,0	107	-	85,5	96,3	-

1x19(1-6/12)

EN 12385-4 1x19M, ISO 2408, DIN 3053, GOST 3063-80



STS 3053

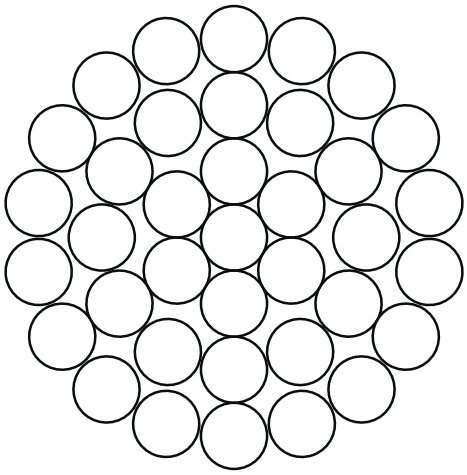
Application: ropes for cable ways, crane ropes, ropes for auto industry, ropes for lightning protection

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
1,5	0,0111	2,11	2,38	2,63	1,86	2,09	2,32
1,6	0,0127	2,40	2,70	3,00	2,11	2,38	2,64
1,7	0,0143	2,71	3,05	3,38	2,38	2,69	2,98
1,8	0,0161	3,04	3,42	3,79	2,67	3,01	3,34
2,0	0,0198	3,75	4,23	4,68	3,30	3,72	4,12
2,5	0,0310	5,86	6,60	7,31	5,15	5,81	6,43
2,8	0,0388	7,35	8,28	9,17	6,47	7,29	8,07
3,0	0,0446	8,43	9,51	10,5	7,42	8,37	9,27
3,3	0,0539	10,2	11,5	12,7	9,0	10,1	11,2
3,5	0,0607	11,5	12,9	14,3	10,1	11,4	12,6
4,0	0,0793	15,0	16,9	18,7	13,2	14,9	16,5
4,5	0,100	19,0	21,4	23,7	16,7	18,8	20,8
5,0	0,124	23,4	26,4	29,2	20,6	23,2	25,7
5,5	0,150	28,3	32,0	35,4	24,9	28,1	31,1
6,0	0,178	33,7	38,0	42,1	29,7	33,5	37,1
6,5	0,209	39,6	44,6	49,4	34,8	39,3	43,5
7,0	0,243	45,9	51,8	57,3	40,4	45,6	50,4
7,5	0,279	52,7	59,4	65,8	46,4	52,3	57,9
8,0	0,317	60,0	67,6	74,9	52,8	59,5	65,9
8,5	0,358	67,7	76,3	84,5	59,6	67,2	74,4
9,0	0,401	75,9	85,6	94,8	66,8	75,3	83,4

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
10,0	0,495	93,7	106	117	82,5	93,0	103
10,5	0,546	103	116	129	90,9	103	114
11,0	0,599	113	128	142	99,8	112	125
12,0	0,713	135	152	168	119	134	148
13,0	0,837	158	179	198	139	157	174
14,0	0,971	184	207	-	162	182	-
15,0	1,11	211	238	-	186	209	-
16,0	1,27	240	270	-	211	238	-

1x37(1-6/12/18)

EN 12385-4 1x37M, ISO 2408, DIN 3054, GOST 3064-80



STS 3054

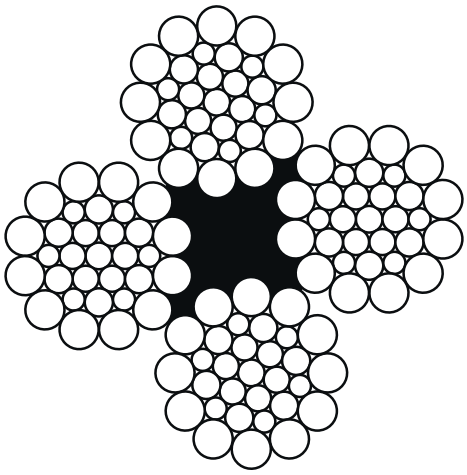
Application: ropes for power transmission lines, guy ropes for supports

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
2,1	0,0216	4,08	4,60	5,09	3,55	4,00	4,43
2,4	0,0282	5,33	6,00	6,65	4,63	5,23	5,79
2,5	0,0306	5,78	6,52	7,22	5,03	5,67	6,28
2,7	0,0356	6,74	7,60	8,42	5,87	6,61	7,32
2,8	0,0383	7,25	8,17	9,05	6,31	7,11	7,88
3,0	0,0440	8,32	9,38	10,4	7,24	8,16	9,04
3,5	0,0599	11,3	12,8	14,1	9,86	11,1	12,3
4,0	0,0782	14,8	16,7	18,5	12,9	14,5	16,1
4,2	0,0862	16,3	18,4	20,4	14,2	16,0	17,7
4,5	0,0990	18,7	21,1	23,4	16,3	18,4	20,3
5,0	0,122	23,1	26,1	28,9	20,1	22,7	25,1
5,5	0,148	28,0	31,5	34,9	24,3	27,4	30,4
6,0	0,176	33,3	37,5	41,6	29,0	32,7	36,2
7,0	0,240	45,3	51,1	56,6	39,4	44,4	49,2
8,0	0,313	59,2	66,7	73,9	51,5	58,1	64,3
8,5	0,353	66,8	75,3	83,4	58,1	65,5	72,6
9,0	0,396	74,9	84,4	93,5	65,2	73,5	81,4
10,0	0,489	92,5	104	115	80,5	90,7	100
10,5	0,539	102	115	127	88,7	100	111
11,5	0,647	122	138	153	106	120	133
12,0	0,704	133	150	166	116	131	145

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
12,5	0,764	144	163	180	126	142	157
14,0	0,958	181	204	226	158	178	197
15,5	1,17	222	250	277	193	218	241
16,0	1,25	237	267	296	206	232	257
17,0	1,41	267	301	-	233	262	-
18,0	1,58	300	338	-	261	294	-
18,5	1,67	316	357	-	275	310	-
20,0	1,96	370	417	-	322	363	-
21,0	2,16	408	460	-	355	400	-
22,0	2,37	448	505	-	389	439	-
22,5	2,48	468	528	-	407	459	-

4x31(1-6-6+6-12)-FC

EN 12385-4 4x31WS-FC, ISO 2408



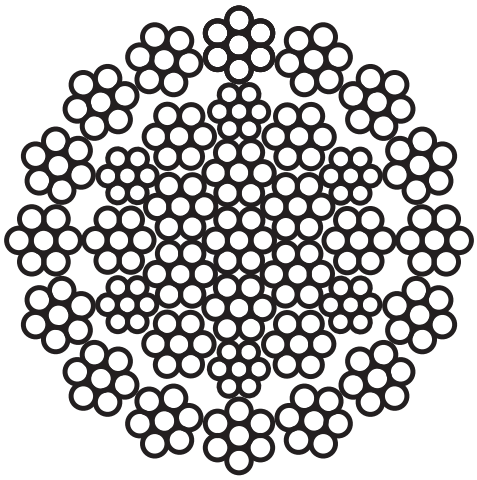
STS 104.1

Application: construction hoist trolleys

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²							
		1570	1770	1960	2160	1570	1770	1960	2160
		Breaking load, kN, not less than							
		calculated aggregate breaking load				minimum breaking load			
8,3	0,25	47,1	53,1	58,8	64,8	39,1	44,1	48,8	53,8

35(W)x7

EN 12385-4 35(W)x7



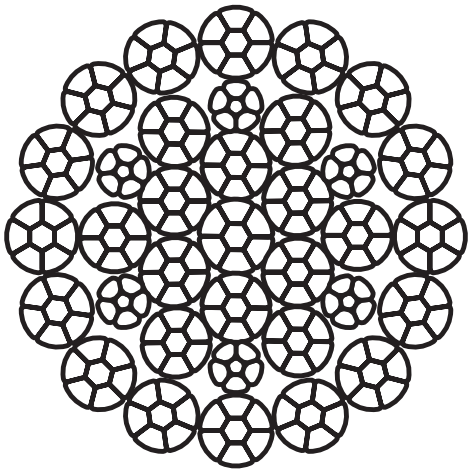
STS 147.2

Application: rotation-resistant ropes, for cranes, mining lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1770	1860	1960
		Minimum breaking force, kN, not less than		
10,0	0,45	63,7	67,0	70,6
11,0	0,55	77,1	81,0	85,4
12,0	0,65	91,8	96,4	102
13,0	0,77	108	113	119
14,0	0,89	125	131	138
15,0	1,02	143	151	159
16,0	1,16	163	171	181
17,0	1,31	184	194	204
18,0	1,47	206	217	229
19,0	1,64	230	242	255
20,0	1,82	255	268	282
22,0	2,20	308	324	342
23,0	2,40	337	354	373
24,0	2,62	367	386	406
26,0	3,07	431	453	477
28,0	3,56	500	525	553
30,0	4,09	573	603	635
32,0	4,65	652	686	723

35(W)xK7

EN 12385-4 35(W)xK7



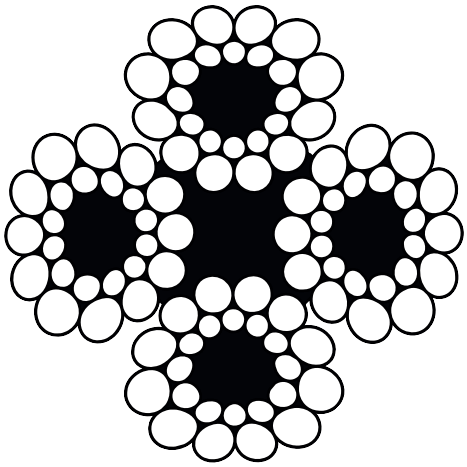
STS 147.2K

Application: rotation-resistant ropes, for cranes, mining lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1770	1860	1960
		Minimum breaking force, kN, not less than		
10,0	0,46	69,6	73,1	77,0
11,0	0,56	85,5	89,8	94,6
12,0	0,67	102	107	113
13,0	0,80	121	127	134
14,0	0,93	141	148	156
15,0	1,09	164	172	182
16,0	1,21	183	192	202
17,0	1,36	206	217	228
18,0	1,54	232	244	257
19,0	1,72	259	273	287
20,0	1,85	283	297	313
22,0	2,31	349	367	387
23,0	2,47	374	393	414
24,0	2,71	410	431	454
26,0	3,14	475	499	526
28,0	3,61	547	574	605
30,0	4,11	623	654	689
32,0	4,65	727	763	805

K4x24(FC-12-12)-5FC

EN 12385-4 K4x24S-5FC, ISO 2408



STS 122.2K

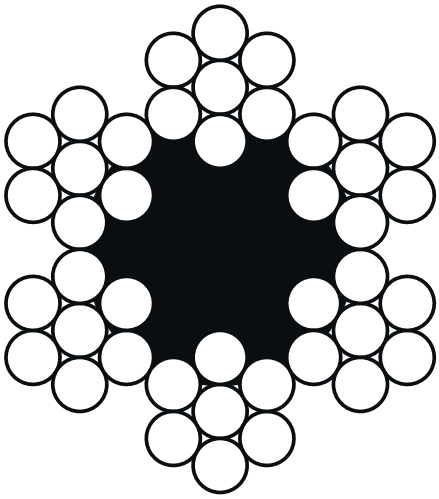
Application: rotation-resistant ropes for cranes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
14,0	0,750	123	139	154	98,5	111	123

STALKANAT

6x7(1-6)-FC

EN 12385-4 6x7-FC, ISO 2408, DIN 3055 FE, GOST 3069-80



STS 3055.1

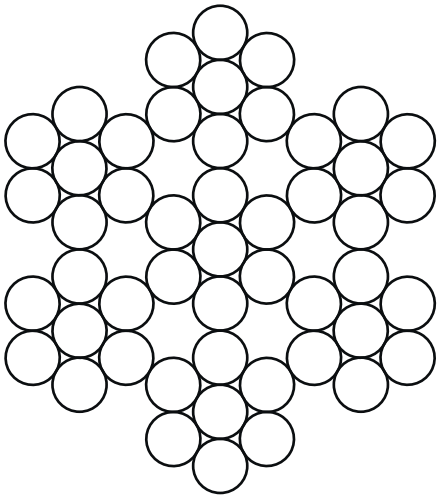
Application: ropes for cable-ways, cable cranes, shipping and hauling ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
2,9	0,0290	4,87	5,49	6,08	4,39	4,95	5,48
3,0	0,0311	5,22	5,88	6,51	4,69	5,29	5,86
3,2	0,0353	5,93	6,69	7,41	5,34	6,02	6,67
3,3	0,0376	6,31	7,11	7,88	5,68	6,40	7,09
3,5	0,0423	7,10	8,00	8,86	6,39	7,20	7,98
3,7	0,0472	7,93	8,94	9,90	7,14	8,05	8,91
4,0	0,0552	9,27	10,5	11,6	8,35	9,41	10,4
4,5	0,0699	11,7	13,2	14,6	10,6	11,9	13,2
4,8	0,0795	13,4	15,1	16,7	12,0	13,5	15,0
4,9	0,0828	13,9	15,7	17,4	12,5	14,1	15,6
5,0	0,0863	14,5	16,3	18,1	13,0	14,7	16,3
5,2	0,0933	15,7	17,7	19,6	14,1	15,9	17,6
5,9	0,120	20,2	22,7	25,2	18,2	20,5	22,7
6,0	0,124	20,9	23,5	26,0	18,8	21,2	23,4
6,5	0,146	24,5	27,6	30,6	22,0	24,8	27,5
6,8	0,160	26,8	30,2	33,5	24,1	27,2	30,1
7,0	0,169	28,4	32,0	35,4	25,6	28,8	31,9
7,8	0,210	35,3	39,7	44,0	31,7	35,8	39,6
8,0	0,221	37,1	41,8	46,3	33,4	37,6	41,7
8,7	0,26	43,9	49,4	54,8	39,5	44,5	49,3
9,0	0,28	46,9	52,9	58,6	42,2	47,6	52,7

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
9,7	0,32	54,5	61,5	68,1	49,1	55,3	61,3
10,0	0,35	57,9	65,3	72,3	52,2	58,8	65,1
10,5	0,38	63,9	72,0	79,8	57,5	64,8	71,8
11,0	0,42	70,1	79,1	87,5	63,1	71,2	78,8
11,5	0,46	76,6	86,4	95,7	69,0	77,8	86,1
12,0	0,50	83,4	94,1	104	75,1	84,7	93,8
12,5	0,54	90,5	102	113	81,5	91,9	102
13,0	0,58	97,9	110	122	88,1	99,4	110
13,5	0,63	106	119	132	95,1	107	119
14,0	0,68	114	128	142	102	115	128
14,5	0,73	122	137	152	110	124	137
15,5	0,83	139	157	174	125	141	156
16,0	0,88	148	167	185	134	151	167
16,5	0,94	158	178	197	142	160	177
17,5	1,06	177	200	222	160	180	199
18,0	1,12	188	212	234	169	191	211
19,0	1,25	209	236	261	188	212	235
19,5	1,31	220	248	275	198	224	248
20,0	1,38	232	261	289	209	235	260
21,0	1,52	256	288	319	230	259	287
22,0	1,67	280	316	350	252	285	315
23,0	1,83	307	346	383	276	311	344
24,0	1,99	334	376	417	300	339	375
25,0	2,16	362	408	-	326	368	-
25,5	2,24	377	425	-	339	382	-
26,0	2,33	392	442	-	353	398	-
27,0	2,52	422	476	-	380	429	-
28,0	2,70	454	512	-	409	461	-
29,0	2,90	487	549	-	439	495	-

6x7(1-6)-WSC

EN 12385-4 6x7-WSC, ISO 2408, DIN 3055 SE, GOST 3066-80



STS 3055.3

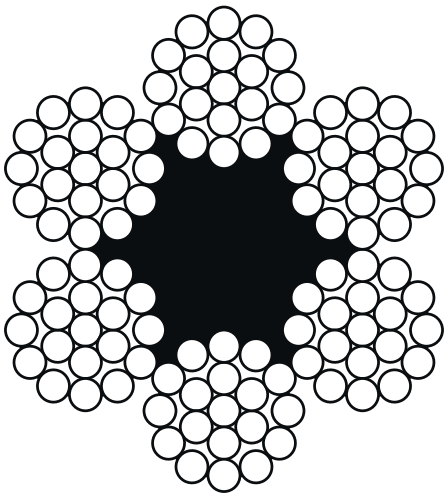
Application: ropes for cars and computers

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
2,8	0,0301	5,32	5,99	6,64	4,78	5,38	5,96
3,0	0,0346	6,10	6,88	7,62	5,48	6,18	6,84
3,1	0,0369	6,52	7,35	8,14	5,85	6,60	7,31
3,2	0,0393	6,95	7,83	8,67	6,24	7,03	7,79
3,5	0,0470	8,31	9,37	10,4	7,46	8,41	9,32
3,8	0,0554	9,79	11,0	12,2	8,80	9,92	11,0
4,0	0,0614	10,9	12,2	13,5	9,75	11,0	12,2
4,2	0,0677	12,0	13,5	14,9	10,7	12,1	13,4
4,5	0,0778	13,7	15,5	17,1	12,3	13,9	15,4
4,6	0,0813	14,4	16,2	17,9	12,9	14,5	16,1
4,8	0,0885	15,6	17,6	19,5	14,0	15,8	17,5
5,0	0,0960	17,0	19,1	21,2	15,2	17,2	19,0
5,2	0,104	18,3	20,7	22,9	16,5	18,6	20,6
5,6	0,120	21,3	24,0	26,6	19,1	21,5	23,8
6,0	0,138	24,4	27,5	30,5	21,9	24,7	27,4
6,4	0,157	27,8	31,3	34,7	25,0	28,1	31,1
6,5	0,162	28,7	32,3	35,8	25,7	29,0	32,1
7,0	0,188	33,2	37,5	41,5	29,8	33,7	37,3
7,4	0,210	37,1	41,9	46,4	33,4	37,6	41,6
8,0	0,246	43,4	48,9	54,2	39,0	44,0	48,7
8,2	0,258	45,6	51,4	56,9	41,0	46,2	51,1

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
9,0	0,311	54,9	61,9	68,6	49,3	55,6	61,6
9,2	0,325	57,4	64,7	71,7	51,6	58,1	64,4
10,0	0,384	67,8	76,5	84,7	60,9	68,7	76,0
11,0	0,465	82,1	92,5	102	73,7	83,1	92,0
12,0	0,553	97,7	110	122	87,7	98,9	110
13,0	0,649	115	129	143	103	116	129
14,0	0,753	133	150	166	119	135	149
15,0	0,864	153	172	191	137	155	171
15,5	0,923	163	184	203	146	165	183
16,0	0,983	174	196	217	156	176	195
16,5	1,045	185	208	231	166	187	207
18,0	1,24	220	248	274	197	223	246
18,5	1,31	232	262	290	208	235	260
19,0	1,39	245	276	306	220	248	275
20,0	1,54	271	306	339	244	275	304
22,0	1,86	328	370	410	295	332	368
24,0	2,21	391	440	-	351	396	-
25,0	2,40	424	478	-	381	429	-
26,0	2,60	458	517	-	412	464	-
27,5	2,90	513	578	-	461	519	-

6x19(1-6/12)-FC

EN 12385-4 6x19M-FC, ISO 2408, DIN 3060 FE, GOST 3070-88



STS 3060.1

Application: slings, tow and raft attachments

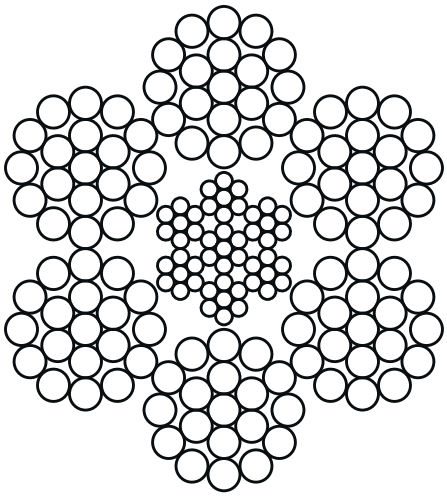
Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
4,8	0,0797	12,9	14,6	16,1	11,1	12,5	13,9
5,0	0,0865	14,0	15,8	17,5	12,1	13,6	15,1
5,5	0,105	17,0	19,1	21,2	14,6	16,5	18,2
5,8	0,116	18,9	21,3	23,6	16,2	18,3	20,3
6,0	0,125	20,2	22,8	25,2	17,4	19,6	21,7
6,5	0,146	23,7	26,7	29,6	20,4	23,0	25,4
7,0	0,170	27,5	31,0	34,3	23,6	26,7	29,5
7,5	0,195	31,6	35,6	39,4	27,1	30,6	33,9
8,0	0,221	35,9	40,5	44,8	30,9	34,8	38,5
8,1	0,227	36,8	41,5	46,0	31,7	35,7	39,5
8,5	0,250	40,5	45,7	50,6	34,9	39,3	43,5
9,0	0,280	45,5	51,2	56,7	39,1	44,1	48,8
9,5	0,312	50,6	57,1	63,2	43,5	49,1	54,4
9,7	0,326	52,8	59,5	65,9	45,4	51,2	56,7
10,0	0,346	56,1	63,3	70,1	48,2	54,4	60,2
10,5	0,381	61,9	69,7	77,2	53,2	60,0	66,4
11,0	0,419	67,9	76,5	84,8	58,4	65,8	72,9
11,5	0,458	74,2	83,7	92,6	63,8	71,9	79,7
12,0	0,498	80,8	91,1	101	69,5	78,3	86,7
12,5	0,541	87,7	98,8	109	75,4	85,0	94,1
13,0	0,585	94,8	107	118	81,5	91,9	102

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
13,5	0,631	102	115	128	87,9	99,1	110
14,0	0,678	110	124	137	94,6	107	118
14,5	0,727	118	133	147	101	114	127
15,0	0,779	126	142	158	109	122	136
15,5	0,831	135	152	168	116	131	145
16,0	0,886	144	162	179	124	139	154
16,5	0,942	153	172	191	131	148	164
17,0	1,000	162	183	202	139	157	174
17,5	1,06	172	194	215	148	167	184
18,0	1,12	182	205	227	156	176	195
18,5	1,18	192	217	240	165	186	206
19,0	1,25	203	228	253	174	196	217
19,5	1,32	213	241	266	183	207	229
20,0	1,38	224	253	280	193	218	241
20,5	1,45	236	266	294	203	229	253
21,0	1,53	247	279	309	213	240	266
21,5	1,60	259	292	324	223	251	278
22,0	1,67	272	306	339	234	263	292
22,5	1,75	284	320	355	244	275	305
23,0	1,83	297	335	371	255	288	319
23,5	1,91	310	349	387	266	300	333
24,0	1,99	323	364	403	278	313	347
24,5	2,08	337	380	420	290	326	362
25,0	2,16	351	395	438	302	340	376
25,5	2,25	365	411	456	314	354	392
26,0	2,34	379	428	474	326	368	407
26,5	2,43	394	444	492	339	382	423
27,0	2,52	409	461	511	352	397	439
27,5	2,62	424	478	530	365	411	455
28,0	2,71	440	496	549	378	426	472
28,5	2,81	456	514	569	392	442	489
29,0	2,91	472	532	589	406	457	507
29,5	3,01	488	551	610	420	473	524
30,0	3,11	505	569	630	434	490	542
30,5	3,22	522	588	652	449	506	560
31,0	3,33	539	608	673	464	523	579
31,5	3,43	557	628	695	479	540	598
32,0	3,54	575	648	717	494	557	617
34,0	4,00	649	731	810	558	629	696
36,0	4,48	727	820	908	625	705	781
38,0	5,00	810	913	1012	697	785	870

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
40,0	5,54	898	1012	-	772	870	-
42,0	6,10	990	1116	-	851	959	-
44,0	6,70	1086	1225	-	934	1053	-
46,0	7,32	1187	1339	-	1021	1151	-
48,0	7,97	1293	1458	-	1112	1253	-
50,0	8,65	1403	1581	-	1206	1360	-
52,0	9,36	1517	1711	-	1305	1471	-

6x19(1-6/12)-IWRC

EN 12385-4 6x19M-IWRC, ISO 2408, DIN 3060 SES



STS 3060.2

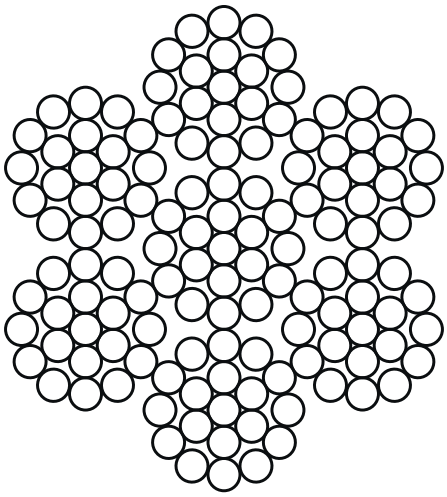
Application: slings, tow and raft attachment

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
8,0	0,238	41,6	47,0	52,0	33,3	37,6	41,6
8,5	0,269	47,0	53,0	58,7	37,6	42,4	47,0
9,0	0,301	52,7	59,4	65,8	42,2	47,6	52,7
9,5	0,336	58,7	66,2	73,3	47,0	53,0	58,7
10,0	0,372	65,1	73,4	81,2	52,1	58,7	65,1
10,5	0,410	71,7	80,9	89,6	57,4	64,8	71,7
11,0	0,450	78,7	88,8	98,3	63,1	71,1	78,7
11,5	0,492	86,1	97,0	107	68,9	77,7	86,0
12,0	0,536	93,7	106	117	75,0	84,6	93,7
12,5	0,581	102	115	127	81,4	91,8	102
13,0	0,629	110	124	137	88,1	99,3	110
13,5	0,678	119	134	148	95,0	107	119
14,0	0,729	128	144	159	102	115	128
14,5	0,782	137	154	171	110	124	137
15,0	0,837	146	165	183	117	132	146
15,5	0,894	156	176	195	125	141	156
16,0	0,952	167	188	208	133	150	167
16,5	1,01	177	200	221	142	160	177
17,0	1,08	188	212	235	151	170	188
17,5	1,14	199	225	249	160	180	199
18,0	1,21	211	238	263	169	190	211
18,5	1,27	223	251	278	178	201	223
19,0	1,34	235	265	293	188	212	235

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
19,5	1,41	247	279	309	198	223	247
20,0	1,49	260	293	325	208	235	260
20,5	1,56	273	308	341	219	247	273
21,0	1,64	287	324	358	230	259	287
21,5	1,72	301	339	376	241	272	301
22,0	1,80	315	355	393	252	284	315
22,5	1,88	329	371	411	264	297	329
23,0	1,97	344	388	430	276	311	344
23,5	2,05	359	405	449	288	324	359
24,0	2,14	375	423	468	300	338	375
24,5	2,23	391	440	488	313	353	390
25,0	2,33	407	459	508	326	367	407
25,5	2,42	423	477	528	339	382	423
26,0	2,51	440	496	549	352	397	440
26,5	2,61	457	515	571	366	413	457
27,0	2,71	474	535	592	380	428	474
27,5	2,81	492	555	614	394	444	492
28,0	2,92	510	575	637	409	461	510
28,5	3,02	529	596	660	423	477	528
29,0	3,13	547	617	683	438	494	547
29,5	3,24	566	638	707	453	511	566
30,0	3,35	586	660	731	469	529	585
30,5	3,46	605	682	756	485	546	605
31,0	3,57	625	705	781	501	565	625
31,5	3,69	646	728	806	517	583	645
32,0	3,81	666	751	832	534	602	666
34,0	4,30	752	848	939	602	679	752
36,0	4,82	843	951	-	675	761	-
38,0	5,37	940	1059	-	752	848	-
40,0	5,95	1041	1174	-	834	940	-
42,0	6,56	1148	1294	-	919	1036	-
44,0	7,20	1260	1420	-	1009	1137	-
46,0	7,87	1377	1552	-	1103	1243	-
48,0	8,57	1499	1690	-	1201	1354	-
50,0	9,30	1627	1834	-	1303	1469	-
52,0	10,1	1760	1984	-	1409	1588	-

6x19(1-6/12)-WSC

EN 12385-4 6x19M-WSC, ISO 2408, DIN 3060 SEL, GOST 3067-88



STS 3060.3

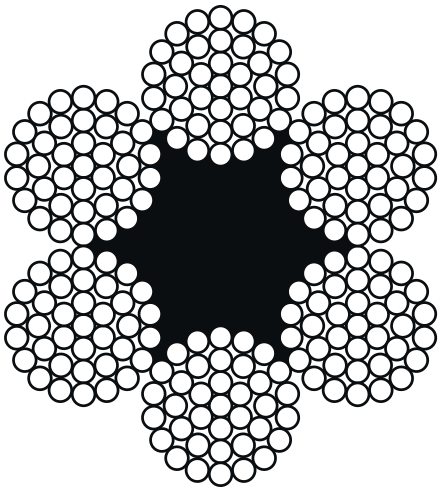
Application: slings, tow and raft attachment

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
5,0	0,0953	16,4	18,5	20,5	14,2	16,0	17,7
5,2	0,103	17,7	20,0	22,2	15,4	17,3	19,2
5,5	0,115	19,9	22,4	24,8	17,2	19,4	21,5
5,8	0,128	22,1	24,9	27,6	19,1	21,6	23,9
6,0	0,137	23,6	26,6	29,5	20,5	23,1	25,5
6,2	0,146	25,2	28,4	31,5	21,8	24,6	27,3
6,5	0,161	27,7	31,3	34,6	24,0	27,1	30,0
7,0	0,187	32,2	36,3	40,1	27,8	31,4	34,8
7,5	0,214	36,9	41,6	46,1	32,0	36,0	39,9
7,6	0,220	37,9	42,7	47,3	32,8	37,0	41,0
8,0	0,244	42,0	47,4	52,4	36,4	41,0	45,4
8,4	0,269	46,3	52,2	57,8	40,1	45,2	50,1
8,5	0,275	47,4	53,5	59,2	41,1	46,3	51,3
9,0	0,309	53,2	59,9	66,4	46,0	51,9	57,5
9,2	0,322	55,5	62,6	69,3	48,1	54,2	60,1
9,5	0,344	59,2	66,8	73,9	51,3	57,8	64,0
9,9	0,373	64,3	72,5	80,3	55,7	62,8	69,5
10,0	0,381	65,6	74,0	81,9	56,8	64,1	71,0
10,5	0,420	72,4	81,6	90,3	62,7	70,6	78,2
11,0	0,461	79,4	89,5	99,1	68,8	77,5	85,9
12,0	0,549	94,5	107	118	81,8	92,3	102
13,0	0,644	111	125	138	96,0	108	120
13,5	0,694	120	135	149	104	117	129

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
14,0	0,747	129	145	161	111	126	139
15,0	0,857	148	166	184	128	144	160
16,0	0,975	168	189	210	145	164	182
16,5	1,04	179	201	223	155	174	193
18,0	1,23	213	240	265	184	208	230
18,5	1,30	225	253	280	195	219	243
20,0	1,52	263	296	328	227	256	284
22,0	1,84	318	358	397	275	310	343
24,0	2,19	378	426	472	327	369	409
26,0	2,58	444	500	554	384	433	480
28,0	2,99	515	580	642	446	502	556
30,0	3,43	591	666	737	512	577	639
32,0	3,90	672	758	839	582	656	727
36,0	4,94	851	959	-	737	830	-
40,0	6,10	1050	1184	-	909	1025	-
44,0	7,38	1271	1432	-	1100	1240	-
48,0	8,78	1512	1705	-	1309	1476	-

6x37(1-6/12/18)-FC

EN 12385-4 6x37M-FC, ISO 2408, DIN 3066 FE, GOST 3071-88



STS 3066.1

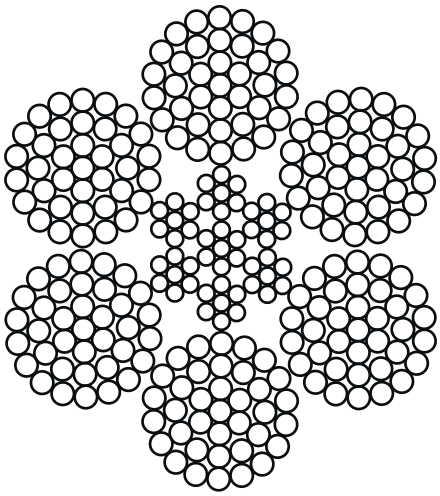
Application: slings, ropes for stoppage of cargo handling

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
6,7	0,155	25,2	28,4	31,4	20,8	23,4	25,9
7,0	0,170	27,5	31,0	34,3	22,7	25,6	28,3
7,6	0,200	32,4	36,5	40,5	26,7	30,1	33,4
8,0	0,221	35,9	40,5	44,8	29,6	33,4	37,0
8,5	0,250	40,5	45,7	50,6	33,4	37,7	41,7
9,0	0,280	45,5	51,2	56,7	37,5	42,3	46,8
10,0	0,346	56,1	63,3	70,1	46,3	52,2	57,8
11,0	0,419	67,9	76,5	84,8	56,0	63,1	69,9
11,5	0,458	74,2	83,7	92,6	61,2	69,0	76,4
12,0	0,498	80,8	91,1	101	66,6	75,1	83,2
13,0	0,585	94,8	107	118	78,2	88,2	97,6
13,5	0,631	102	115	128	84,4	95,1	105
14,0	0,678	110	124	137	90,7	102	113
15,5	0,831	135	152	168	111	125	139
16,0	0,886	144	162	179	118	134	148
18,0	1,12	182	205	227	150	169	187
20,0	1,38	224	253	280	185	209	231
22,0	1,67	272	306	339	224	253	280
24,0	1,99	323	364	403	267	301	333
25,0	2,16	351	395	438	289	326	361
26,0	2,34	379	428	474	313	353	391
28,0	2,71	440	496	549	363	409	453
30,0	3,11	505	569	630	417	470	520

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
32,0	3,54	575	648	717	474	534	592
34,0	4,00	649	731	810	535	603	668
36,0	4,48	727	820	908	600	676	749
40,0	5,54	898	1012	1121	741	835	924
44,0	6,70	1086	1225	1356	896	1010	1119
48,0	7,97	1293	1458	-	1066	1202	-
50,0	8,65	1403	1581	-	1157	1304	-
52,0	9,36	1517	1711	-	1252	1411	-
56,0	10,85	1760	1984	-	1451	1636	-
60,0	12,46	2020	2277	-	1666	1878	-
64,0	14,17	2298	2591	-	1896	2137	-

6x37(1-6/12/18)-IWRC

EN 12385-4 6x37M-IWRC, ISO 2408, DIN 3066 SES, GOST 3068-88



STS 3066.2

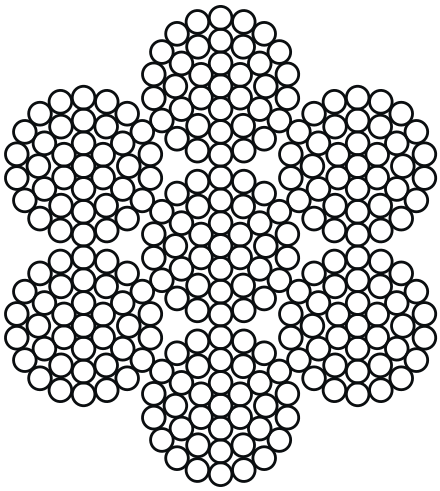
Application: slings, ropes for stoppage of cargo handling

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
8,0	0,244	42,0	47,4	52,4	32,1	36,1	40,0
9,0	0,309	53,2	59,9	66,4	40,6	45,7	50,6
10,0	0,381	65,6	74,0	81,9	50,1	56,5	62,5
11,0	0,461	79,4	89,5	99,1	60,6	68,3	75,7
12,0	0,549	94,5	107	118	72,1	81,3	90,0
13,0	0,644	111	125	138	84,6	95,4	106
14,0	0,747	129	145	161	98,2	111	123
16,0	0,975	168	189	210	128	145	160
18,0	1,23	213	240	265	162	183	203
20,0	1,52	263	296	328	200	226	250
22,0	1,84	318	358	397	242	273	303
24,0	2,19	378	426	472	288	325	360
25,0	2,38	410	462	512	313	353	391
26,0	2,58	444	500	554	339	382	423
28,0	2,99	515	580	642	393	443	490
30,0	3,43	591	666	737	451	508	563
32,0	3,90	672	758	839	513	578	640
36,0	4,94	851	959	1062	649	732	810
40,0	6,10	1050	1184	1311	801	903	1000
44,0	7,38	1271	1432	1586	970	1093	1210
48,0	8,78	1512	1705	-	1154	1301	-
50,0	9,53	1641	1850	-	1252	1412	-
52,0	10,30	1775	2001	-	1354	1527	-

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
56,0	11,95	2058	2320	-	1571	1771	-
60,0	13,72	2363	2663	-	1803	2033	-
64,0	15,61	2688	3030	-	2051	2313	-

6x37(1-6/12/18)-WSC

EN 12385-4 6x37M-WSC, ISO 2408, DIN 3066 SEL



STS 3066.3

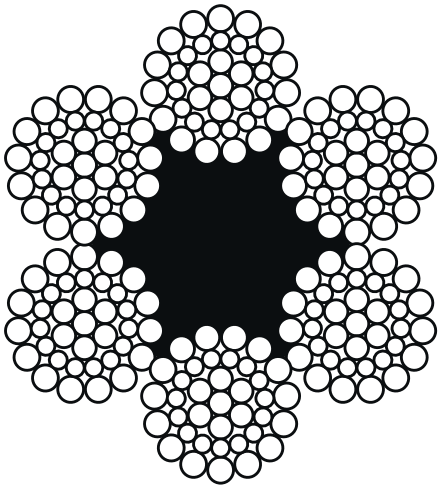
Application: slings, ropes for stoppage of cargo handling

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
7,0	0,187	32,2	36,3	40,1	26,6	30,0	33,2
8,0	0,244	42,0	47,4	52,4	34,8	39,2	43,4
9,0	0,309	53,2	59,9	66,4	44,0	49,6	54,9
10,0	0,381	65,6	74,0	81,9	54,3	61,2	67,8
11,0	0,461	79,4	89,5	99,1	65,7	74,1	82,1
12,0	0,549	94,5	107	118	78,2	88,2	97,7
13,0	0,644	111	125	138	91,8	103	115
14,0	0,747	129	145	161	106	120	133
16,0	0,975	168	189	210	139	157	174
18,0	1,23	213	240	265	176	198	220
20,0	1,52	263	296	328	217	245	271
22,0	1,84	318	358	397	263	296	328
24,0	2,19	378	426	472	313	353	391
25,0	2,38	410	462	512	340	383	424
26,0	2,58	444	500	554	367	414	458
28,0	2,99	515	580	642	426	480	532
30,0	3,43	591	666	737	489	551	610
32,0	3,90	672	758	839	556	627	694
36,0	4,94	851	959	1062	704	794	879
40,0	6,10	1050	1184	1311	869	980	1085
44,0	7,38	1271	1432	1586	1052	1186	1313
48,0	8,78	1512	1705	-	1252	1411	-
50,0	9,53	1641	1850	-	1358	1531	-

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
52,0	10,30	1775	2001	-	1469	1656	-
56,0	11,95	2058	2320	-	1704	1921	-
60,0	13,72	2363	2663	-	1956	2205	-

6x37(1-6/15-15)-FC

EN 12385-4 6x37NS-FC, ISO 2408, GOST 3079-80



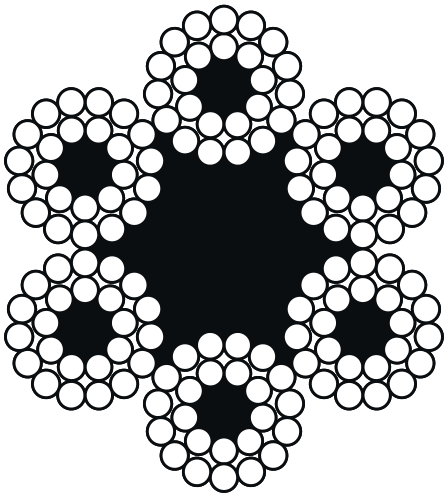
STS 3079

Application: slings, ropes for stoppage of cargo handling

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
11,5	0,47	78,3	88,2	97,7	65,8	74,2	82,2
13,5	0,64	108	122	135	90,7	102	113
15,5	0,85	142	160	178	120	135	149
17,0	1,02	171	193	214	144	162	180
19,5	1,34	225	254	281	189	213	236
21,5	1,63	274	308	342	230	259	287
23,0	1,86	313	353	391	263	297	329
25,0	2,20	370	417	462	311	351	388
27,0	2,57	431	486	539	363	409	453
29,0	2,96	498	561	621	419	472	523
30,5	3,27	551	621	687	463	522	578
33,0	3,83	645	727	805	542	611	677
35,0	4,31	725	817	905	610	687	761
39,0	5,35	900	1015	1124	757	853	945
43,0	6,51	1094	1234	1366	920	1037	1149
47,0	7,78	1307	1474	1632	1099	1239	1372
50,0	8,80	1480	1668	-	1244	1403	-
52,0	9,52	1600	1804	-	1346	1517	-

6x24(FC-9-15)-7FC

EN 12385-4 6x24M-7FC, ISO 2408, DIN 3068 FE



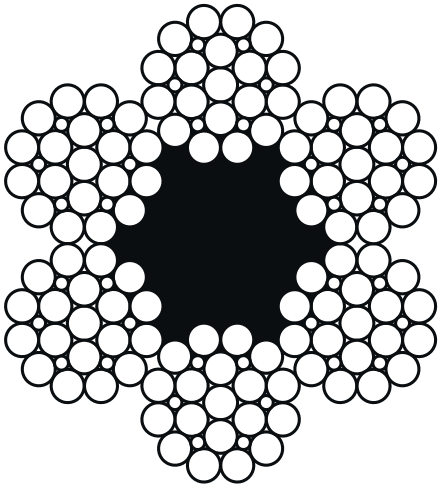
STS 3068.1

Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
6,0	0,115	18,2	20,5	22,7	15,8	17,9	19,8
7,0	0,156	24,8	27,9	30,9	21,6	24,3	26,9
8,0	0,204	32,4	36,5	40,4	28,2	31,7	35,1
9,0	0,258	40,9	46,2	51,1	35,6	40,2	44,5
10,0	0,318	50,6	57,0	63,1	44,0	49,6	54,9
11,0	0,385	61,2	69,0	76,4	53,2	60,0	66,5
12,0	0,458	72,8	82,1	90,9	63,3	71,4	79,1
13,0	0,538	85,4	96,3	107	74,3	83,8	92,8
14,0	0,624	99,1	112	124	86,2	97,2	108
16,0	0,815	129	146	162	113	127	141
18,0	1,03	164	185	204	143	161	178
20,0	1,27	202	228	252	176	198	220

6x25(1-6-6F-12)-FC

EN 12385-4 6x25F-FC, ISO 2408, DIN 3057 FE, GOST 7665-80



STS 3057.1

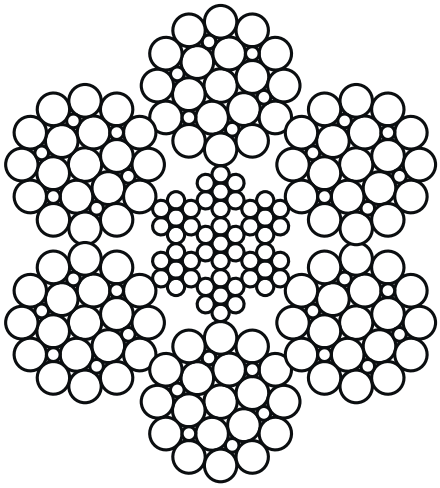
Application: ropes for hoisting transport machines, crane ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
11,0	0,434	74,6	84,1	93,1	64,2	72,3	80,1
11,5	0,475	81,5	91,9	102	70,1	79,0	87,5
12,0	0,517	88,8	100	111	76,3	86,1	95,3
13,0	0,607	104	117	130	89,6	101	112
14,0	0,704	121	136	151	104	117	130
14,5	0,755	130	146	162	111	126	139
15,0	0,808	139	156	173	119	134	149
16,0	0,919	158	178	197	136	153	169
17,0	1,04	178	201	222	153	173	191
17,5	1,10	189	213	236	162	183	203
18,0	1,16	200	225	249	172	194	214
19,0	1,30	223	251	278	191	216	239
19,5	1,37	234	264	293	202	227	252
20,0	1,44	247	278	308	212	239	265
21,0	1,58	272	307	339	234	264	292
22,0	1,74	298	336	373	257	289	320
22,5	1,82	312	352	390	268	303	335
24,0	2,07	355	400	443	305	344	381
25,5	2,33	401	452	500	345	389	430
26,0	2,43	417	470	520	358	404	447
27,5	2,71	466	526	582	401	452	501
28,0	2,81	483	545	603	416	469	519
29,0	3,02	519	585	647	446	503	557

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
30,0	3,23	555	626	693	477	538	596
32,0	3,68	631	712	788	543	612	678
35,5	4,52	777	876	970	668	753	834
36,0	4,65	799	901	998	687	775	858
38,5	5,32	914	1030	-	786	886	-
40,0	5,74	986	1112	-	848	956	-
42,0	6,33	1088	1226	-	935	1054	-
44,0	6,95	1194	1346	-	1026	1157	-
45,0	7,27	1248	1408	-	1074	1210	-
48,5	8,44	1450	1635	-	1247	1406	-

6x25(1-6-6F-12)-IWRC

EN 12385-4 6x25F-IWRC, ISO 2408, DIN 3057 SE, GOST 7667-80



STS 3057.2

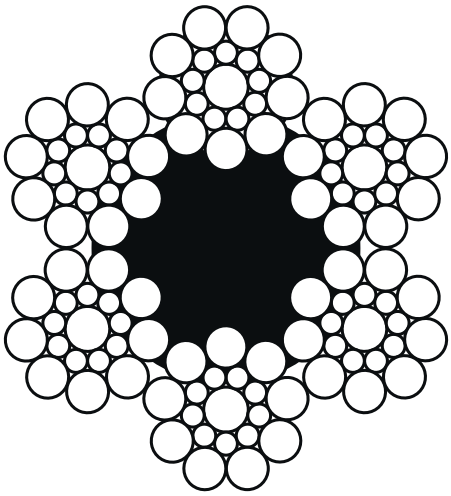
Application: ropes for hoisting transport machines, crane ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
11,0	0,484	86,5	97,6	108	69,3	78,1	86,5
11,5	0,529	94,6	107	118	75,7	85,4	94,5
12,0	0,576	103	116	129	82,5	93,0	103
12,5	0,625	112	126	139	89,5	101	112
13,0	0,676	121	136	151	96,8	109	121
14,0	0,784	140	158	175	112	127	140
15,0	0,900	161	181	201	129	145	161
15,5	0,961	172	194	214	138	155	172
16,0	1,02	183	206	229	147	165	183
17,0	1,16	207	233	258	165	187	207
18,0	1,30	232	261	289	186	209	232
19,0	1,44	258	291	322	207	233	258
20,0	1,60	286	322	357	229	258	286
20,5	1,68	301	339	375	241	271	300
22,0	1,94	346	390	432	277	312	346
23,5	2,21	395	445	493	316	356	395
24,0	2,30	412	464	514	330	372	412
25,0	2,50	447	504	558	358	403	447
26,0	2,70	483	545	604	387	436	483
27,0	2,92	521	588	651	417	471	521
28,0	3,14	561	632	700	449	506	560
30,0	3,60	644	726	804	515	581	643
31,0	3,84	687	775	858	550	620	687

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
32,0	4,10	732	826	914	586	661	732
34,0	4,62	827	932	1032	662	746	826
36,0	5,18	927	1045	1157	742	837	926
37,0	5,48	979	1104	-	784	884	-
40,0	6,40	1144	1290	-	916	1033	-
41,0	6,72	1202	1355	-	963	1085	-
42,0	7,06	1261	1422	-	1010	1139	-
44,0	7,74	1385	1561	-	1109	1250	-
47,0	8,84	1580	1781	-	1265	1426	-

6x19(1-9-9)-FC

EN 12385-4 6x19S-FC, ISO 2408, DIN 3058 FE, GOST 3077-80



STS 3058.1

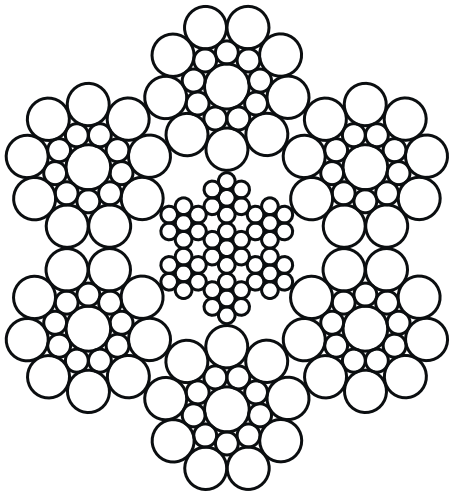
Application: ropes for hoisting-transport machines, ropes for elevators, for cable-ways, drilling ropes for oil and gas extraction

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
6,4	0,147	24,7	27,9	30,9	21,3	24,0	26,6
6,5	0,152	25,5	28,8	31,9	22,0	24,8	27,4
7,5	0,202	34,0	38,3	42,4	29,2	33,0	36,5
7,8	0,218	36,8	41,4	45,9	31,6	35,6	39,5
8,0	0,230	38,7	43,6	48,3	33,3	37,5	41,5
8,5	0,259	43,6	49,2	54,5	37,5	42,3	46,9
8,8	0,278	46,8	52,7	58,4	40,2	45,4	50,2
9,0	0,291	48,9	55,2	61,1	42,1	47,5	52,5
9,5	0,324	54,5	61,5	68,1	46,9	52,9	58,6
10,0	0,359	60,4	68,1	75,4	52,0	58,6	64,9
10,5	0,396	66,6	75,1	83,2	57,3	64,6	71,5
11,0	0,434	73,1	82,4	91,3	62,9	70,9	78,5
11,5	0,475	79,9	90,1	99,7	68,7	77,5	85,8
12,0	0,517	87,0	98,1	109	74,8	84,4	93,4
12,5	0,561	94,4	106	118	81,2	91,5	101
13,0	0,607	102	115	127	87,8	99,0	110
13,5	0,654	110	124	137	94,7	107	118
14,0	0,704	118	133	148	102	115	127
14,5	0,755	127	143	159	109	123	136
15,0	0,808	136	153	170	117	132	146
15,5	0,862	145	164	181	125	141	156
16,0	0,919	155	174	193	133	150	166
16,5	0,977	164	185	205	141	160	177

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
17,0	1,04	175	197	218	150	169	187
17,5	1,10	185	209	231	159	179	199
18,0	1,16	196	221	244	168	190	210
18,5	1,23	207	233	258	178	201	222
19,0	1,30	218	246	272	188	211	234
19,5	1,37	230	259	287	198	223	247
20,0	1,44	242	272	302	208	234	260
20,5	1,51	254	286	317	218	246	273
21,0	1,58	266	300	333	229	258	286
21,5	1,66	279	315	349	240	271	300
22,0	1,74	292	330	365	252	284	314
22,5	1,82	306	345	382	263	297	328
23,0	1,90	320	360	399	275	310	343
23,5	1,98	334	376	417	287	324	358
24,0	2,07	348	392	434	299	337	374
24,5	2,15	363	409	453	312	352	389
25,0	2,24	378	426	471	325	366	405
25,5	2,33	393	443	490	338	381	422
26,0	2,43	408	460	510	351	396	439
26,5	2,52	424	478	530	365	411	456
27,0	2,62	440	497	550	379	427	473
27,5	2,71	457	515	-	393	443	-
28,0	2,81	474	534	-	407	459	-
28,5	2,92	491	553	-	422	476	-
29,0	3,02	508	573	-	437	493	-
29,5	3,12	526	593	-	452	510	-
30,0	3,23	544	613	-	468	527	-
30,5	3,34	562	634	-	483	545	-
31,0	3,45	581	655	-	499	563	-
31,5	3,56	599	676	-	516	581	-
32,0	3,68	619	697	-	532	600	-
32,5	3,79	638	719	-	549	619	-
33,0	3,91	658	742	-	566	638	-
33,5	4,03	678	764	-	583	657	-
34,0	4,15	698	787	-	601	677	-
34,5	4,27	719	811	-	619	697	-
35,0	4,40	740	834	-	637	718	-
36,0	4,65	783	883	-	673	759	-
37,0	4,91	827	932	-	711	802	-
38,0	5,18	872	984	-	750	846	-
39,0	5,46	919	1036	-	790	891	-
40,0	5,74	967	1090	-	831	937	-

6x19(1-9-9)-IWRC

EN 12385-4 6x19S-IWRC, ISO 2408, DIN 3058 SE, GOST 3081-80



STS 3058.2

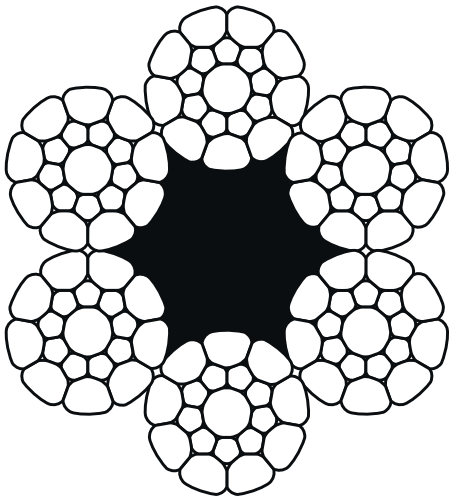
Application: ropes for hoisting-transport machines, ropes for elevators, for cable-ways, drilling ropes for oil and gas extraction

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
7,5	0,225	39,7	44,7	49,5	31,6	35,6	39,4
7,7	0,237	41,8	47,1	52,2	33,3	37,5	41,5
8,0	0,256	45,1	50,9	56,3	35,9	40,5	44,8
8,5	0,289	50,9	57,4	63,6	40,5	45,7	50,6
8,6	0,296	52,1	58,8	65,1	41,5	46,8	51,8
9,0	0,324	57,1	64,4	71,3	45,5	51,2	56,7
9,5	0,361	63,6	71,7	79,4	50,6	57,1	63,2
10,0	0,400	70,5	79,5	88,0	56,1	63,3	70,1
10,5	0,441	77,7	87,6	97,0	61,9	69,8	77,2
11,0	0,484	85,3	96,2	106	67,9	76,6	84,8
11,5	0,529	93,2	105	116	74,2	83,7	92,7
12,0	0,576	102	114	127	80,8	91,1	101
12,5	0,625	110	124	138	87,7	98,9	109
13,0	0,676	119	134	149	94,8	107	118
13,5	0,729	128	145	160	102	115	128
14,0	0,784	138	156	172	110	124	137
14,5	0,841	148	167	185	118	133	147
15,0	0,900	159	179	198	126	142	158
15,5	0,961	169	191	211	135	152	168
16,0	1,02	180	203	225	144	162	179
16,5	1,09	192	216	240	153	172	191
17,0	1,16	204	230	254	162	183	202
17,5	1,23	216	243	270	172	194	215

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
18,0	1,30	228	257	285	182	205	227
18,5	1,37	241	272	301	192	217	240
19,0	1,44	254	287	318	203	228	253
19,5	1,52	268	302	335	213	241	266
20,0	1,60	282	318	352	224	253	280
20,5	1,68	296	334	370	236	266	294
21,0	1,76	311	350	388	247	279	309
21,5	1,85	326	367	407	259	292	324
22,0	1,94	341	385	426	272	306	339
22,5	2,03	357	402	446	284	320	355
23,0	2,12	373	420	466	297	335	371
23,5	2,21	389	439	486	310	349	387
24,0	2,30	406	458	507	323	364	404
24,5	2,40	423	477	528	337	380	421
25,0	2,50	441	497	550	351	395	438
25,5	2,60	458	517	572	365	411	456
26,0	2,70	477	537	595	379	428	474
26,5	2,81	495	558	618	394	444	492
27,0	2,92	514	579	642	409	461	511
27,5	3,03	533	601	666	424	478	530
28,0	3,14	553	623	-	440	496	-
28,5	3,25	573	646	-	456	514	-
29,0	3,36	593	668	-	472	532	-
29,5	3,48	613	692	-	488	551	-
30,0	3,60	634	715	-	505	569	-
30,5	3,72	656	739	-	522	589	-
31,0	3,84	677	764	-	539	608	-
31,5	3,97	699	789	-	557	628	-
32,0	4,10	722	814	-	575	648	-
32,5	4,23	745	839	-	593	668	-
33,0	4,36	768	865	-	611	689	-
33,5	4,49	791	892	-	630	710	-
34,0	4,62	815	919	-	649	731	-
34,5	4,76	839	946	-	668	753	-
35,0	4,90	864	974	-	687	775	-
35,5	5,04	888	1002	-	707	797	-
36,0	5,18	914	1030	-	727	820	-
37,0	5,48	965	1088	-	768	866	-
38,0	5,78	1018	1148	-	810	914	-
39,0	6,08	1072	1209	-	854	962	-
40,0	6,40	1128	1272	-	898	1012	-

6xK19(1-9-9)-FC

EN 12385-6 6xK19S-FC



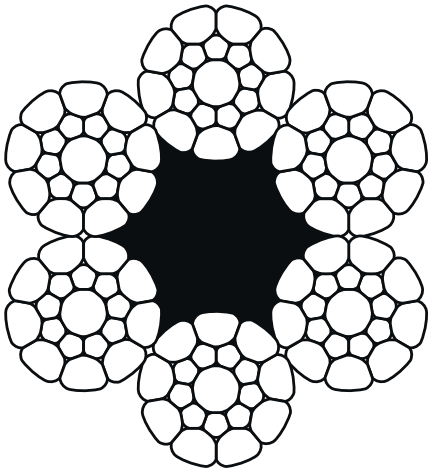
STS 033

Application: ropes for inclined shaft

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
23,0	2,20	357	379	402	307	326	346
25,5	2,64	432	460	487	372	395	419
28,0	3,14	515	548	580	443	471	499
30,5	3,69	605	643	682	520	553	586
32,5	4,28	702	747	791	604	642	680
35,0	4,92	806	858	909	693	737	782
37,0	5,39	877	933	989	754	802	851

6xK19(1-9-9)-FC

EN 12385-4 6xK19S-FC



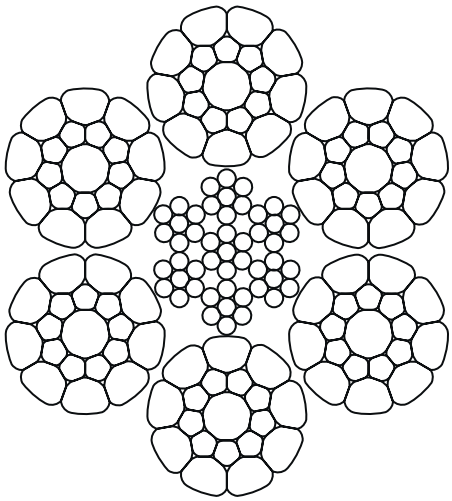
STS 3058.1K

Application: ropes for inclined shaft, ropes for hoisting transport machines, drilling ropes for oil and gas extraction

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
12,0	0,612	83,3	98,1	109
13,0	0,718	101	114	126
14,0	0,833	113	127	141
15,0	0,956	131	148	163
16,0	1,09	152	171	190
17,0	1,23	165	186	206
18,0	1,38	189	213	235
19,0	1,53	214	241	267
20,0	1,70	231	260	288
22,0	2,06	277	312	345
23,0	2,25	307	346	383
24,0	2,45	332	374	414
25,5	2,76	372	419	464
26,0	2,87	392	442	490
28,0	3,33	465	525	581
30,0	3,83	522	588	-
30,5	3,95	546	616	-
31,0	4,08	561	632	-
32,0	4,35	588	663	-
32,5	4,49	604	680	-
34,0	4,91	661	745	-
35,0	5,21	707	797	-
36,0	5,51	754	851	-
37,0	5,82	803	906	-

6xK19(1-9-9)-IWRC

EN 12385-4 6xK19S-IWRC



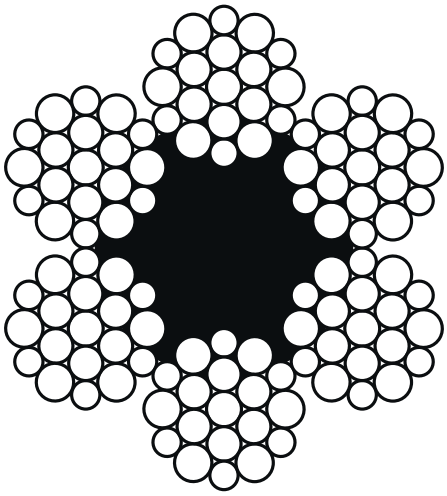
STS 3058.2K

Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
12,0	0,687	88,7	108	120
13,0	0,806	115	130	144
14,0	0,935	130	147	163
16,0	1,22	175	197	218
18,0	1,55	216	244	270
20,0	1,91	266	300	333
22,0	2,31	320	361	400
24,0	2,75	382	431	477
26,0	3,22	453	511	566
28,0	3,74	533	601	665
29,0	4,01	557	628	695
32,0	4,88	680	767	-
35,0	5,84	814	918	-
36,0	6,18	865	975	-

6x19(1-6-6+6)-FC

EN 12385-4 6x19W-FC, ISO 2408, DIN 3059 FE, GOST 2688-80



STS 3059.1

Application: ropes for hoisting transport machines

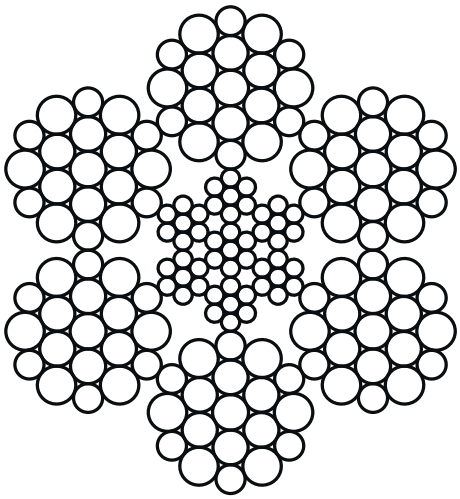
Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
5,1	0,0934	15,7	17,7	19,6	13,5	15,2	16,9
5,5	0,109	18,3	20,6	22,8	15,7	17,7	19,6
5,6	0,113	18,9	21,4	23,7	16,3	18,4	20,3
6,0	0,129	21,7	24,5	27,2	18,7	21,1	23,4
6,2	0,138	23,2	26,2	29,0	20,0	22,5	24,9
6,5	0,152	25,5	28,8	31,9	22,0	24,8	27,4
6,9	0,171	28,8	32,4	35,9	24,7	27,9	30,9
7,0	0,176	29,6	33,4	37,0	25,5	28,7	31,8
7,5	0,202	34,0	38,3	42,4	29,2	33,0	36,5
7,6	0,207	34,9	39,3	43,6	30,0	33,8	37,5
8,0	0,230	38,7	43,6	48,3	33,3	37,5	41,5
8,1	0,236	39,6	44,7	49,5	34,1	38,4	42,6
8,3	0,247	41,6	46,9	52,0	35,8	40,4	44,7
8,5	0,259	43,6	49,2	54,5	37,5	42,3	46,9
9,0	0,291	48,9	55,2	61,1	42,1	47,5	52,5
9,1	0,297	50,0	56,4	62,5	43,0	48,5	53,7
9,5	0,324	54,5	61,5	68,1	46,9	52,9	58,6
9,6	0,331	55,7	62,8	69,5	47,9	54,0	59,8
10,0	0,359	60,4	68,1	75,4	52,0	58,6	64,9
10,5	0,396	66,6	75,1	83,2	57,3	64,6	71,5
11,0	0,434	73,1	82,4	91,3	62,9	70,9	78,5

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
11,5	0,475	79,9	90,1	99,7	68,7	77,5	85,8
12,0	0,517	87,0	98,1	109	74,8	84,4	93,4
12,5	0,561	94,4	106	118	81,2	91,5	101
13,0	0,607	102	115	127	87,8	99,0	110
13,5	0,654	110	124	137	94,7	107	118
14,0	0,704	118	133	148	102	115	127
14,5	0,755	127	143	159	109	123	136
15,0	0,808	136	153	170	117	132	146
15,5	0,862	145	164	181	125	141	156
16,0	0,919	155	174	193	133	150	166
16,5	0,977	164	185	205	141	160	177
17,0	1,04	175	197	218	150	169	187
17,5	1,10	185	209	231	159	179	199
18,0	1,16	196	221	244	168	190	210
18,5	1,23	207	233	258	178	201	222
19,0	1,30	218	246	272	188	211	234
19,5	1,37	230	259	287	198	223	247
20,0	1,44	242	272	302	208	234	260
20,5	1,51	254	286	317	218	246	273
21,0	1,58	266	300	333	229	258	286
21,5	1,66	279	315	349	240	271	300
22,0	1,74	292	330	365	252	284	314
22,5	1,82	306	345	382	263	297	328
23,0	1,90	320	360	399	275	310	343
23,5	1,98	334	376	417	287	324	358
24,0	2,07	348	392	434	299	337	374
24,5	2,15	363	409	453	312	352	389
25,0	2,24	378	426	471	325	366	405
25,5	2,33	393	443	490	338	381	422
26,0	2,43	408	460	510	351	396	439
26,5	2,52	424	478	530	365	411	456
27,0	2,62	440	497	550	379	427	473
27,5	2,71	457	515	570	393	443	491
28,0	2,81	474	534	591	407	459	509
28,5	2,92	491	553	613	422	476	527
29,0	3,02	508	573	634	437	493	546
29,5	3,12	526	593	656	452	510	565
30,0	3,23	544	613	679	468	527	584
30,5	3,34	562	634	702	483	545	604
31,0	3,45	581	655	725	499	563	623
32,0	3,68	619	697	772	532	600	664

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
33,0	3,91	658	742	821	566	638	706
33,5	4,03	678	764	846	583	657	728
34,0	4,15	698	787	872	601	677	750
35,0	4,40	740	834	-	637	718	-
36,0	4,65	783	883	-	673	759	-
37,0	4,91	827	932	-	711	802	-
38,0	5,18	872	984	-	750	846	-
39,0	5,46	919	1036	-	790	891	-
39,5	5,60	943	1063		811	914	
40,0	5,74	967	1090	-	831	937	-
41,0	6,03	1016	1145	-	874	985	-
42,0	6,33	1066	1201	-	917	1033	-

6x19(1-6-6+6)-IWRC

EN 12385-4 6x19W-IWRC, ISO 2408, DIN 3059 SE, GOST 14954-80



STS 3059.2

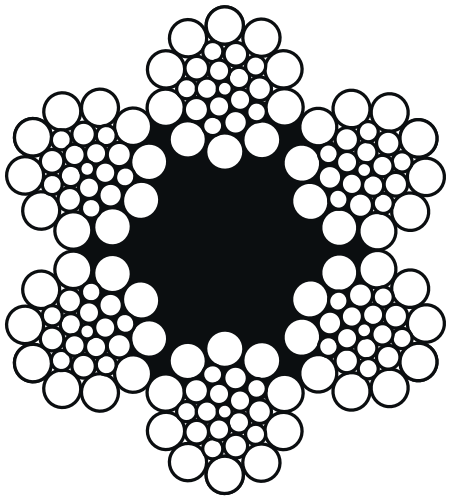
Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
7,5	0,225	39,7	44,7	49,5	31,4	35,4	39,2
8,0	0,256	45,1	50,9	56,3	35,8	40,3	44,7
8,5	0,289	50,9	57,4	63,6	40,4	45,5	50,4
8,8	0,310	54,6	61,5	68,2	43,3	48,8	54,0
9,0	0,324	57,1	64,4	71,3	45,3	51,0	56,5
9,5	0,361	63,6	71,7	79,4	50,4	56,9	63,0
9,7	0,376	66,3	74,8	82,8	52,6	59,3	65,7
10,0	0,400	70,5	79,5	88,0	55,9	63,0	69,8
10,5	0,441	77,7	87,6	97,0	61,6	69,5	76,9
11,0	0,484	85,3	96,2	106	67,6	76,2	84,4
11,5	0,529	93,2	105	116	73,9	83,3	92,3
12,0	0,576	102	114	127	80,5	90,7	100
12,5	0,625	110	124	138	87,3	98,5	109
13,0	0,676	119	134	149	94,5	106	118
13,5	0,729	128	145	160	102	115	127
14,0	0,784	138	156	172	110	124	137
14,5	0,841	148	167	185	118	132	147
15,0	0,900	159	179	198	126	142	157
15,5	0,961	169	191	211	134	151	168
16,0	1,02	180	203	225	143	161	179
16,5	1,09	192	216	240	152	172	190
17,0	1,16	204	230	254	162	182	202
17,5	1,23	216	243	270	171	193	214

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
18,0	1,30	228	257	285	181	204	226
18,5	1,37	241	272	301	191	216	239
19,0	1,44	254	287	318	202	227	252
19,5	1,52	268	302	335	213	240	265
20,0	1,60	282	318	352	224	252	279
20,5	1,68	296	334	370	235	265	293
21,0	1,76	311	350	388	246	278	308
21,5	1,85	326	367	407	258	291	323
22,0	1,94	341	385	426	271	305	338
22,5	2,03	357	402	446	283	319	353
23,0	2,12	373	420	466	296	333	369
23,5	2,21	389	439	486	309	348	385
24,0	2,30	406	458	507	322	363	402
24,5	2,40	423	477	528	335	378	419
25,0	2,50	441	497	550	349	394	436
25,5	2,60	458	517	572	363	410	454
26,0	2,70	477	537	595	378	426	472
26,5	2,81	495	558	618	393	443	490
27,0	2,92	514	579	642	407	459	509
27,5	3,03	533	601	666	423	477	528
28,0	3,14	553	623	690	438	494	547
28,5	3,25	573	646	715	454	512	567
29,0	3,36	593	668	740	470	530	587
29,5	3,48	613	692	766	486	548	607
30,0	3,60	634	715	792	503	567	628
31,0	3,84	677	764	846	537	606	671
32,0	4,10	722	814	901	572	645	715
33,0	4,36	768	865	958	609	686	760
34,0	4,62	815	919	-	646	728	-
35,0	4,90	864	974	-	685	772	-
36,0	5,18	914	1030	-	724	817	-
37,0	5,48	965	1088	-	765	863	-
38,0	5,78	1018	1148	-	807	910	-
38,5	5,93	1045	1178	-	828	934	-
39,0	6,08	1072	1209	-	850	958	-
40,0	6,40	1128	1272	-	894	1008	-
41,0	6,72	1185	1336	-	940	1059	-

6x26(1-5-5+5-10)-FC

EN 12385-4 6x26WS-FC



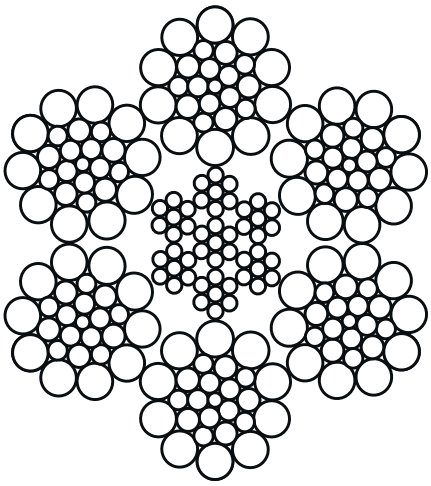
STS 102.1

Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
14,0	0,704	118	133	148	102	114	127
14,5	0,755	127	143	158	109	123	136
15,0	0,808	136	153	169	117	131	146
15,5	0,862	145	163	181	124	140	155
16,0	0,919	154	174	193	133	150	166
18,0	1,16	195	220	244	168	189	210
20,0	1,44	241	272	301	207	234	259
22,0	1,74	292	329	364	251	283	313
24,0	2,07	347	391	434	298	336	373
25,0	2,24	377	425	470	324	365	404
26,0	2,43	408	459	509	350	395	437
28,0	2,81	473	533	590	406	458	507
29,0	3,02	507	572	633	436	491	544
30,0	3,23	543	612	677	466	526	582
32,0	3,68	617	696	771	531	598	662
34,0	4,15	697	786	-	599	675	-
35,0	4,40	739	833	-	635	716	-
36,0	4,65	781	881	-	671	757	-
38,0	5,18	871	981	-	748	843	-
40,0	5,74	965	1087	-	829	935	-
42,0	6,33	1063	1199	-	914	1030	-
44,0	6,95	1167	1316	-	1003	1131	-
45,0	7,27	1221	1376	-	1049	1183	-

6x26(1-5-5+5-10)-IWRC

EN 12385-4 6x26WS-IWRC



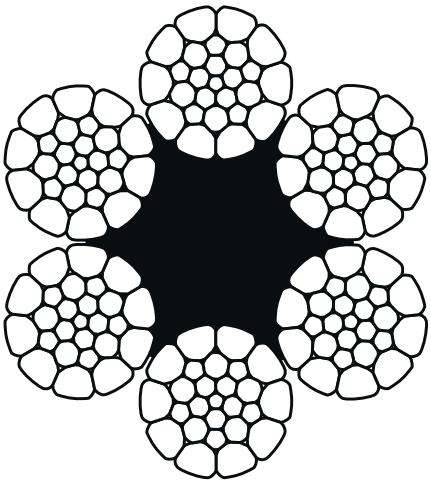
STS 102.2

Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
14,0	0,784	138	156	172	110	124	137
14,5	0,841	148	167	185	118	132	147
15,0	0,900	159	179	198	126	142	157
15,5	0,961	169	191	211	134	151	168
16,0	1,02	180	203	225	143	161	179
18,0	1,30	228	257	285	181	204	226
20,0	1,60	282	318	352	224	252	279
22,0	1,94	341	385	426	271	305	338
24,0	2,30	406	458	507	322	363	402
25,0	2,50	441	497	550	349	394	436
26,0	2,70	477	537	595	378	426	472
28,0	3,14	553	623	690	438	494	547
29,0	3,36	593	668	740	470	530	587
30,0	3,60	634	715	792	503	567	628
32,0	4,10	722	814	901	572	645	715
34,0	4,62	815	919	-	646	728	-
35,0	4,90	864	974	-	685	772	-
36,0	5,18	914	1030	-	724	817	-
38,0	5,78	1018	1148	-	807	910	-
40,0	6,40	1128	1272	-	894	1008	-
42,0	7,06	1243	1402	-	986	1112	-
44,0	7,74	1365	1539	-	1082	1220	-
45,0	8,10	1427	1609	-	1132	1276	-

6xK26(1-5-5+5-10)-FC

EN 12385-4 6xK26WS-FC



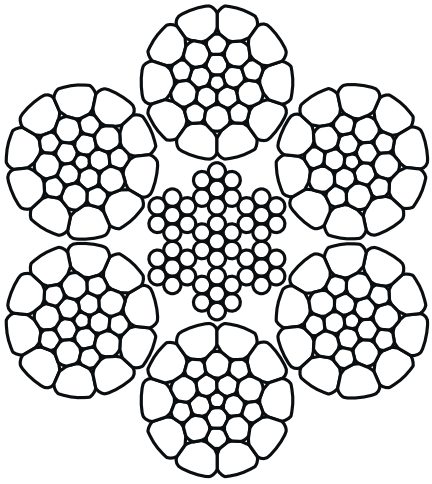
STS 102.1K

Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
14,0	0,833	110	125	138
16,0	1,088	146	165	182
18,0	1,377	182	205	227
20,0	1,700	238	268	297
22,0	2,06	284	320	355
24,0	2,45	338	382	422
25,0	2,66	361	407	451
26,0	2,87	394	444	492
28,0	3,33	458	516	572
28,6	3,48	480	541	599
29,0	3,57	485	547	605
30,0	3,83	519	585	648
31,0	4,08	551	621	688
32,0	4,35	591	666	738
34,0	4,91	669	754	-
35,0	5,21	724	816	-
36,0	5,51	775	874	-
38,0	6,14	845	953	-
40,0	6,80	947	1067	-
44,0	8,23	1134	1279	-

6xK26(1-5-5+5-10)-IWRC

EN 12385-4 6xK26WS-IWRC



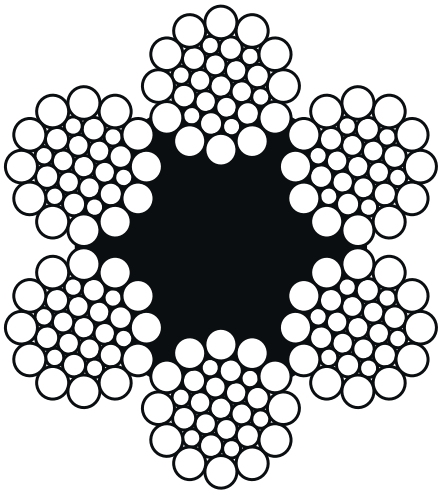
STS 102.2K

Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
14,0	0,93	118	133	148
16,0	1,22	156	176	195
18,0	1,55	194	219	242
20,0	1,91	252	284	315
22,0	2,31	303	341	378
24,0	2,75	359	405	448
25,0	2,98	385	434	480
26,0	3,22	420	474	525
28,0	3,74	484	546	605
28,6	3,90	511	576	638
29,0	4,01	515	581	643
30,0	4,29	552	623	-
32,0	4,88	631	712	-
34,0	5,51	711	802	-
35,0	5,84	769	867	-
36,0	6,18	819	923	-
38,0	6,89	896	1010	-
40,0	7,63	1005	1133	-
44,0	9,23	1209	1363	-

6x31(1-6-6+6-12)-FC

EN 12385-4 6x31WS-FC, GOST 16853-88



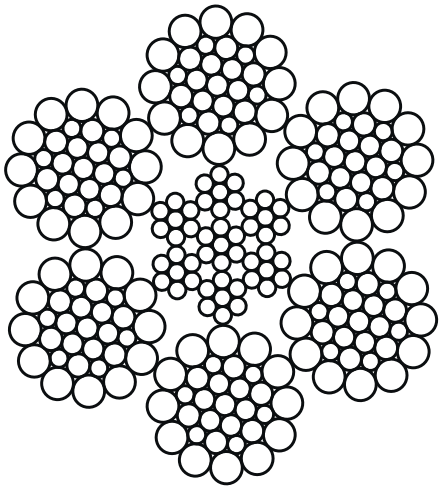
STS 16853.1

Application: Drilling ropes for oil and gas extraction

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
25,0	2,45	411,0	437,0	462,5	349,0	371,0	393,0
28,0	3,00	517,5	550,0	582,0	439,5	467,5	494,5
32,0	3,80	643,0	683,0	723,5	546,5	580,5	615,0
35,0	4,64	775,0	823,5	872,0	658,5	700,0	741,0
38,0	5,45	919,0	976,5	1030	781,0	830,0	878,5

6x31(1-6-6+6-12)-IWRC

EN 12385-4 6x31WS-IWRC, GOST 16853-88



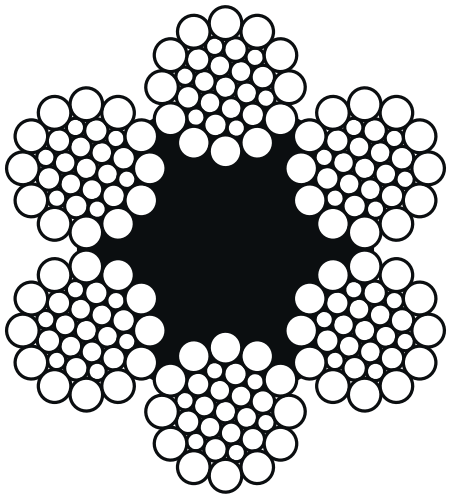
STS 16853.2

Application: Drilling ropes for oil and gas extraction

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
25,0	2,66	471,5	501,0	530,5	400,5	426,0	451,0
28,0	3,38	590,5	627,5	664,5	502,0	533,0	564,5
32,0	4,20	746,0	792,5	839,0	634,5	673,5	713,0
35,0	5,05	885,0	940,5	995,5	752,0	799,0	846,0
38,0	5,98	1055	1121	1185	896,5	952,5	1009

6x31(1-6-6+6-12)-FC

EN 12385-4 6x31WS-FC



STS 117.1

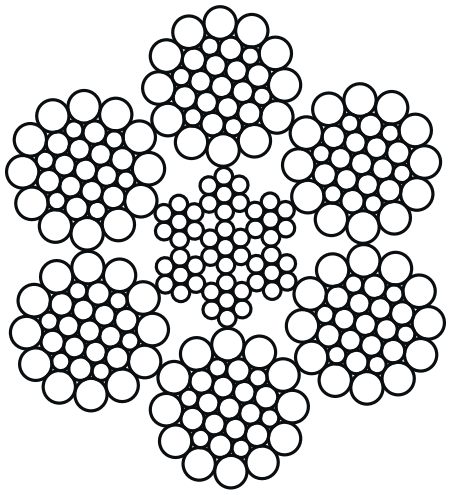
Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
8,0	0,235	39,5	44,5	49,3	33,2	37,4	41,4
10,0	0,367	61,7	69,6	77,0	51,8	58,4	64,7
11,0	0,444	74,7	84,2	93,2	62,7	70,7	78,3
12,0	0,528	88,8	100	111	74,6	84,1	93,1
13,0	0,620	104	118	130	87,6	98,7	109
14,0	0,719	121	136	151	102	114	127
15,0	0,826	139	157	173	117	131	146
16,0	0,940	158	178	197	133	150	166
18,0	1,19	200	225	250	168	189	210
20,0	1,47	247	278	308	207	234	259
22,0	1,78	299	337	373	251	283	313
24,0	2,11	355	401	444	298	336	373
25,0	2,29	386	435	481	324	365	404
25,5	2,39	401	452	501	337	380	421
26,0	2,48	417	470	521	350	395	437
28,0	2,88	484	545	604	406	458	507
28,6	3,00	505	569	630	424	478	529
29,0	3,09	519	585	648	436	491	544
30,0	3,30	555	626	693	466	526	582
32,0	3,76	632	712	789	531	598	662
34,0	4,24	713	804	890	599	675	748
35,0	4,50	756	852	944	635	716	792
36,0	4,76	800	902	998	671	757	838

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
38,0	5,30	891	1004	1112	748	843	934
40,0	5,87	987	1113	-	829	935	-
42,0	6,47	1088	1227	-	914	1030	-
44,0	7,11	1195	1347	-	1003	1131	-
45,0	7,43	1249	1409	-	1049	1183	-
46,0	7,77	1306	1472	-	1096	1236	-
48,0	8,46	1422	1603	-	1194	1346	-
50,0	9,18	1543	1739	-	1295	1460	-
52,0	9,92	1668	1881	-	1401	1579	-
54,0	10,7	1799	2028	-	1511	1703	-
56,0	11,5	1935	2181	-	1625	1832	-

6x31(1-6-6+6-12)-IWRC

EN 12385-4 6x31WS-IWRC



STS 117.2

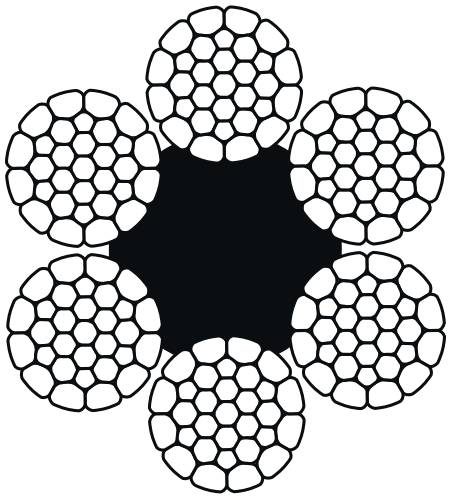
Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
10,0	0,409	72,2	81,4	90,2	55,9	63,0	69,8
11,0	0,495	87,4	98,5	109	67,6	76,2	84,4
12,0	0,589	104	117	130	80,5	90,7	100
13,0	0,691	122	138	152	94,5	106	118
14,0	0,802	142	160	177	110	124	137
15,0	0,920	162	183	203	126	142	157
16,0	1,05	185	208	231	143	161	179
18,0	1,33	234	264	292	181	204	226
20,0	1,64	289	326	361	224	252	279
22,0	1,98	350	394	436	271	305	338
24,0	2,36	416	469	519	322	363	402
25,0	2,56	451	509	564	349	394	436
25,5	2,66	470	529	586	363	410	454
26,0	2,76	488	550	609	378	426	472
28,0	3,21	566	638	707	438	494	547
28,6	3,35	591	666	737	457	515	571
29,0	3,44	607	685	758	470	530	587
30,0	3,68	650	733	811	503	567	628
32,0	4,19	740	834	923	572	645	715
34,0	4,73	835	941	1042	646	728	807
35,0	5,01	885	997	1104	685	772	855
36,0	5,30	936	1055	1168	724	817	904
38,0	5,91	1043	1176	1302	807	910	1008

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
40,0	6,54	1156	1303	-	894	1008	-
42,0	7,21	1274	1436	-	986	1112	-
44,0	7,92	1398	1576	-	1082	1220	-
45,0	8,28	1462	1649	-	1132	1276	-
46,0	8,65	1528	1723	-	1183	1333	-
48,0	9,42	1664	1876	-	1288	1452	-
50,0	10,2	1806	2036	-	1397	1575	-

6xK31(1-6-6+6-12)-FC

EN 12385-4 6xK31WS-FC



STS 091.1

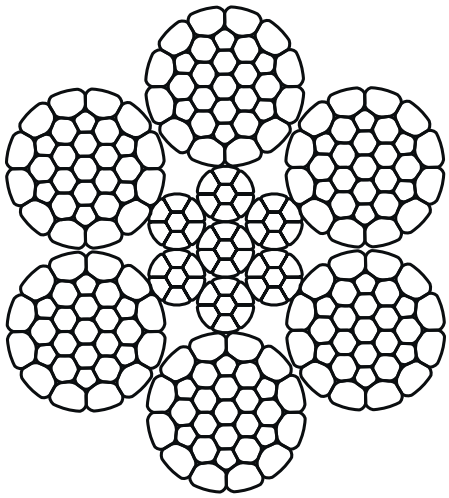
Application: Drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
25,0	2,335	427	454	482	363	386	410
28,0	2,865	524	558	591	446	474	503
32,0	3,790	694	738	783	590	628	665
35,0	4,575	838	892	945	713	758	803
38,0	5,230	958	1020	1080	815	866	918

STALKANAT

6xK31(1-6-6+6-12)-IWRC(K)

EN 12385-4 6xK31WS-IWRC(K)



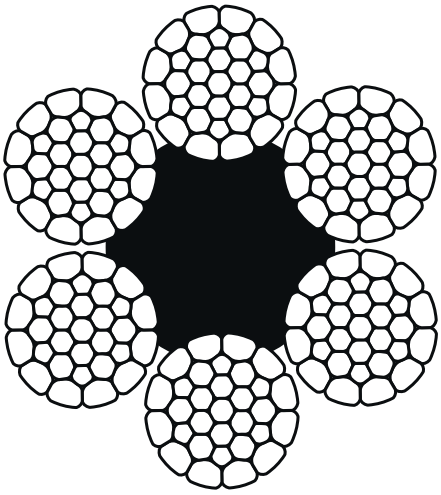
STS 091.2

Application: Drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
25,0	2,695	492	524	555	418	445	472
28,0	3,305	605	643	682	514	547	580
32,0	4,388	803	854	905	682	726	770
35,0	5,273	965	1027	1088	820	873	925
38,0	6,035	1105	1175	1246	939	1000	1059

6xK31(1-6-6+6-12)-FC

EN 12385-4 6xK31WS-FC



STS 117.1K

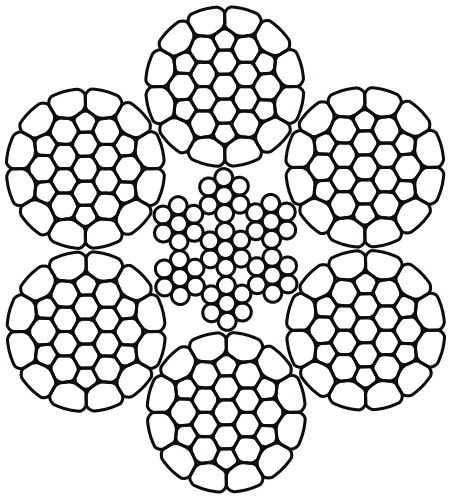
Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
14,0	0,833	114	128	142
16,0	1,09	147	166	184
18,0	1,38	190	214	237
20,0	1,70	229	258	285
22,0	2,06	281	317	351
24,0	2,45	341	384	425
25,0	2,66	363	410	454
26,0	2,87	389	439	486
28,0	3,33	459	517	573
28,6	3,48	473	533	591
29,0	3,57	489	551	610
30,0	3,83	525	592	655
32,0	4,35	590	666	737
35,0	5,21	713	804	890
36,0	5,51	760	857	949
38,0	6,14	851	960	-
40,0	6,80	933	1052	-
44,0	8,23	1115	1257	-
45,0	8,61	1192	1344	-
48,0	9,79	1346	1518	-

STALKANAT

6xK31(1-6-6+6-12)-IWRC

EN 12385-4 6xK31WS-IWRC



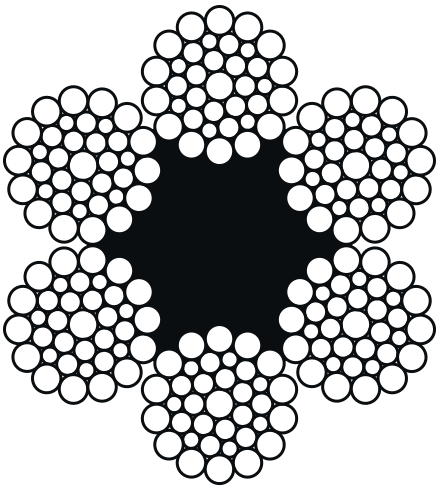
STS 117.2K

Application: drilling ropes for oil and gas extraction, ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
14,0	0,833	122	137	152
16,0	1,09	159	179	198
18,0	1,38	203	229	254
20,0	1,70	247	278	308
22,0	2,06	303	341	378
24,0	2,45	365	411	455
25,0	2,66	391	441	488
26,0	2,87	420	473	524
28,0	3,33	491	554	613
28,6	3,48	509	574	636
29,0	3,57	524	591	654
30,0	3,83	563	635	703
32,0	4,35	637	718	795
35,0	5,21	766	864	956
36,0	5,51	813	917	1015
38,0	6,14	911	1027	-
40,0	6,80	1002	1130	-
44,0	8,23	1204	1357	-
45,0	8,61	1278	1441	-
48,0	9,79	1444	1627	-

6x36(1-7-7+7-14)-FC

EN 12385-4 6x36WS-FC, ISO 2408, DIN 3064 FE, GOST 7668-80



STS 3064.1

Application: ropes for hoisting-transport machines, mining ropes for hoisting plants

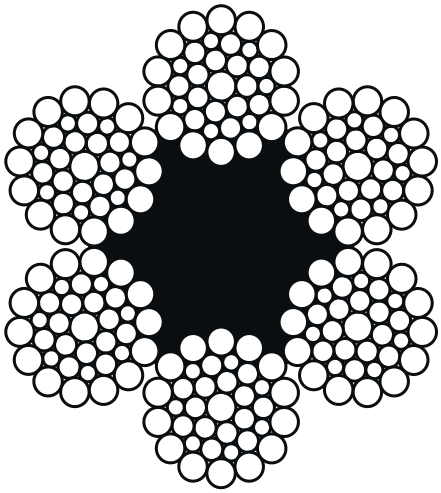
Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
9,7	0,345	58,1	65,4	72,5	48,7	55,0	60,9
10,0	0,367	61,7	69,6	77,0	51,8	58,4	64,7
10,5	0,405	68,0	76,7	84,9	57,1	64,4	71,3
11,0	0,444	74,7	84,2	93,2	62,7	70,7	78,3
11,5	0,485	81,6	92,0	102	68,5	77,2	85,5
12,0	0,528	88,8	100	111	74,6	84,1	93,1
12,5	0,573	96,4	109	120	81,0	91,3	101
13,0	0,620	104	118	130	87,6	98,7	109
13,5	0,669	112	127	140	94,4	106	118
14,0	0,719	121	136	151	102	114	127
14,5	0,772	130	146	162	109	123	136
15,0	0,826	139	157	173	117	131	146
15,5	0,882	148	167	185	124	140	155
16,0	0,940	158	178	197	133	150	166
16,5	0,999	168	189	210	141	159	176
17,0	1,06	178	201	223	150	169	187
17,5	1,12	189	213	236	159	179	198
18,0	1,19	200	225	250	168	189	210
18,5	1,26	211	238	264	177	200	221
19,0	1,32	223	251	278	187	211	233
19,5	1,40	235	265	293	197	222	246
20,0	1,47	247	278	308	207	234	259
21,0	1,62	272	307	340	228	258	285

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
22,0	1,78	299	337	373	251	283	313
23,0	1,94	326	368	407	274	309	342
23,5	2,03	341	384	425	286	323	357
24,0	2,11	355	401	444	298	336	373
25,0	2,29	386	435	481	324	365	404
25,5	2,39	401	452	501	337	380	421
26,0	2,48	417	470	521	350	395	437
26,5	2,58	433	488	541	364	410	454
27,0	2,68	450	507	562	378	426	472
28,0	2,88	484	545	604	406	458	507
29,0	3,09	519	585	648	436	491	544
30,0	3,30	555	626	693	466	526	582
31,0	3,53	593	668	740	498	561	622
32,0	3,76	632	712	789	531	598	662
33,0	4,00	672	758	839	564	636	704
33,5	4,12	692	781	864	581	656	726
34,0	4,24	713	804	890	599	675	748
34,5	4,37	734	828	917	617	695	770
35,0	4,50	756	852	944	635	716	792
36,0	4,76	800	902	998	671	757	838
36,5	4,89	822	927	1026	690	778	862
37,0	5,02	845	952	1055	709	800	885
38,0	5,30	891	1004	1112	748	843	934
39,0	5,58	938	1058	1172	788	888	984
39,5	5,73	963	1085	1202	808	911	1009
40,0	5,87	987	1113	1232	829	935	1035
41,0	6,17	1037	1169	1295	871	982	1087
42,0	6,47	1088	1227	1359	914	1030	1141
43,0	6,79	1141	1286	1424	958	1080	1196
44,0	7,11	1195	1347	1491	1003	1131	1252
44,5	7,27	1222	1377	-	1026	1157	-
45,0	7,43	1249	1409	-	1049	1183	-
46,0	7,77	1306	1472	-	1096	1236	-
46,5	7,94	1334	1504	-	1120	1263	-
47,0	8,11	1363	1537	-	1144	1290	-
48,0	8,46	1422	1603	-	1194	1346	-
48,5	8,63	1451	1636	-	1219	1374	-
49,0	8,81	1481	1670	-	1244	1402	-
50,0	9,18	1543	1739	-	1295	1460	-
50,5	9,36	1574	1774	-	1321	1490	-
51,0	9,55	1605	1809	-	1348	1519	-

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
52,0	9,92	1668	1881	-	1401	1579	-
53,0	10,3	1733	1954	-	1455	1641	-
53,5	10,5	1766	1991	-	1483	1672	-
54,0	10,7	1799	2028	-	1511	1703	-
56,0	11,5	1935	2181	-	1625	1832	-
57,0	11,9	2005	2260	-	1683	1898	-
58,0	12,3	2076	2340	-	1743	1965	-
58,5	12,6	2112	2381	-	1773	1999	-

6x36(1-7-7+7-14)-FC

EN 12385-6 6x36WS-FC



STS 3064.1.6

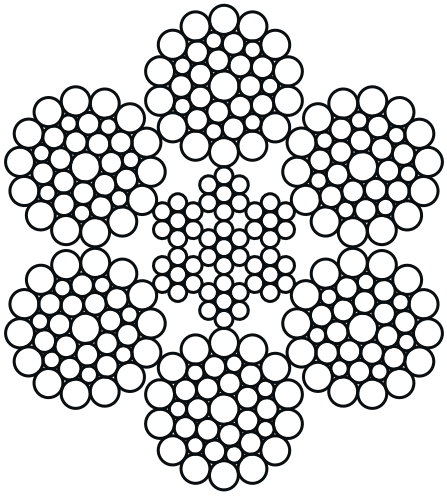
Application: mining ropes for hoisting plants

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
24,0	2,13	366	413	457	311	351	388
25,5	2,41	413	466	516	351	396	438
26,0	2,50	430	485	537	365	412	456
27,0	2,70	464	523	579	394	444	492
28,0	2,90	499	562	622	423	477	529
30,0	3,33	572	645	714	486	548	607
31,0	3,56	611	689	763	519	585	648
32,0	3,79	651	734	813	553	623	690
33,0	4,03	692	781	864	588	663	734
34,0	4,28	735	829	918	624	704	779
36,0	4,80	824	929	1029	700	789	874
36,5	4,93	847	955	1058	720	811	898
38,0	5,34	918	1035	1146	780	879	974
39,5	5,77	992	1118	1239	843	950	1052
40,0	5,92	1017	1147	1270	864	974	1079
42,0	6,53	1122	1265	1400	953	1074	1189
44,0	7,16	1231	1388	-	1046	1179	-
46,0	7,83	1345	1517	-	1143	1288	-
46,5	8,00	1375	1550	-	1168	1317	-
48,0	8,52	1465	1652	-	1244	1403	-
50,0	9,25	1590	1792	-	1350	1522	-

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
50,5	9,44	1622	1828	-	1377	1553	-
52,0	10,0	1719	1938	-	1460	1646	-
53,5	10,6	1820	2052	-	1546	1743	-
54,0	10,8	1854	2090	-	1575	1775	-
56,0	11,6	1994	2248	-	1694	1909	-
58,0	12,4	2139	2411	-	1817	2048	-
58,5	12,7	2176	2453	-	1848	2084	-

6x36(1-7-7+7-14)-IWRC

EN 12385-4 6x36WS-IWRC, ISO 2408, DIN 3064, GOST 7669-80



STS 3064.2

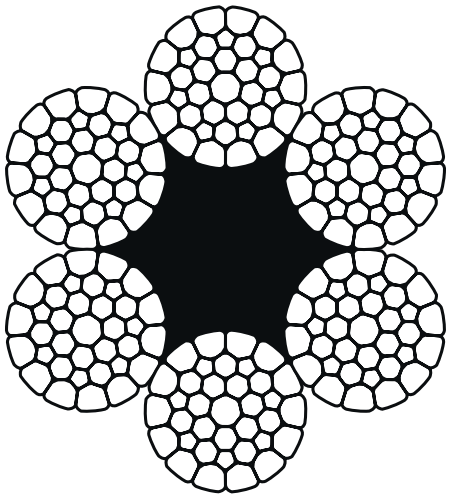
Application: ropes for excavators, guy ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
10,0	0,331	72,2	81,4	90,2	55,9	63,0	69,8
10,5	0,409	79,6	89,8	99,4	61,6	69,5	76,9
11,0	0,451	87,4	98,5	109	67,6	76,2	84,4
12,0	0,495	104	117	130	80,5	90,7	100
12,5	0,589	113	127	141	87,3	98,5	109
13,0	0,639	122	138	152	94,5	106	118
13,5	0,691	132	148	164	102	115	127
14,0	0,745	142	160	177	110	124	137
14,5	0,802	152	171	190	118	132	147
15,0	0,860	162	183	203	126	142	157
15,5	0,920	174	196	217	134	151	168
16,0	0,983	185	208	231	143	161	179
16,5	1,05	197	222	245	152	172	190
17,0	1,11	209	235	261	162	182	202
17,5	1,18	221	249	276	171	193	214
18,0	1,25	234	264	292	181	204	226
18,5	1,33	247	279	309	191	216	239
19,0	1,40	261	294	325	202	227	252
19,5	1,48	275	310	343	213	240	265
20,0	1,56	289	326	361	224	252	279
21,0	1,64	318	359	398	246	278	308

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
22,0	1,80	350	394	436	271	305	338
23,0	1,98	382	431	477	296	333	369
24,0	2,16	416	469	519	322	363	402
25,0	2,36	451	509	564	349	394	436
26,0	2,56	488	550	609	378	426	472
26,5	2,76	507	572	633	393	443	490
27,0	2,87	526	594	657	407	459	509
28,0	2,98	566	638	707	438	494	547
29,0	3,21	607	685	758	470	530	587
30,0	3,44	650	733	811	503	567	628
31,0	3,68	694	782	866	537	606	671
32,0	3,93	740	834	923	572	645	715
32,5	4,19	763	860	952	590	666	737
33,0	4,32	786	887	982	609	686	760
33,5	4,45	810	914	1012	627	707	783
34,0	4,59	835	941	1042	646	728	807
35,0	4,73	885	997	1104	685	772	855
35,5	5,01	910	1026	1136	704	794	879
36,0	5,15	936	1055	1168	724	817	904
36,5	5,30	962	1085	1201	745	839	930
37,0	5,45	989	1115	1234	765	863	955
38,0	5,60	1043	1176	1302	807	910	1008
39,0	5,91	1098	1238	1371	850	958	1061
39,5	6,22	1127	1270	1407	872	983	1089
40,0	6,38	1156	1303	1443	894	1008	1116
41,0	6,54	1214	1369	1516	940	1059	1173
42,0	6,88	1274	1436	1590	986	1112	1231
43,0	7,21	1335	1505	1667	1033	1165	1290
44,0	7,56	1398	1576	1745	1082	1220	1351
45,0	7,92	1462	1649	-	1132	1276	-
45,5	8,28	1495	1686	-	1157	1305	-
46,0	8,47	1528	1723	-	1183	1333	-
47,0	8,65	1595	1799	-	1235	1392	-
48,0	9,03	1664	1876	-	1288	1452	-
49,0	9,42	1734	1955	-	1342	1513	-
50,0	9,82	1806	2036	-	1397	1575	-
51,0	10,2	1878	2118	-	1454	1639	-
52,0	10,6	1953	2202	-	1511	1704	-
53,0	11,1	2029	2287	-	1570	1770	-
54,0	11,5	2106	2374		1630	1837	
56,0	11,9	2265	2553	-	1753	1976	-
57,0	12,8	2346	2645	-	1816	2047	-
58,0	13,3	2429	2739	-	1880	2120	-

6xK36(1-7-7+7-14)-FC

EN 12385-4 6xK36WS-FC



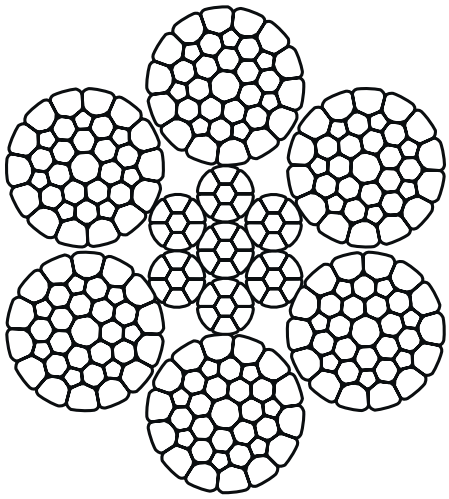
STS 089.1

Application: ropes for excavators

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
18,0	1,36	177	188	199
39,5	5,95	840	890	950
46,5	8,35	1180	1260	1330
53,5	10,92	1550	1650	1750

6xK36(1-7-7+7-14)-IWRC(K)

EN 12385-4 6xK36WS-IWRC(K)



STS 089.2

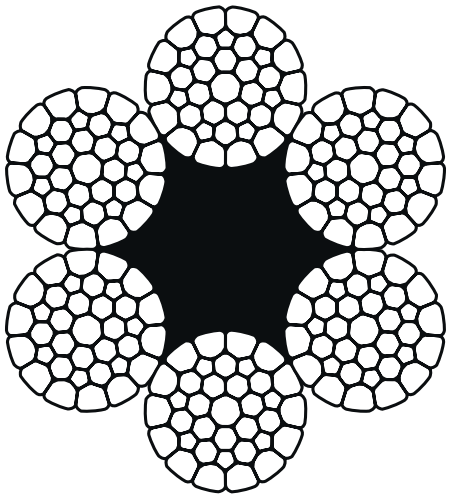
Application: ropes for excavators

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
22,0	2,24	318	338	358
39,0	6,55	910	960	1020
45,5	9,13	1270	1350	1430
52,0	11,98	1660	1770	1870

STALKANAT

6xK36(1-7-7+7-14)-FC

EN 12385-4 6xK36WS-FC



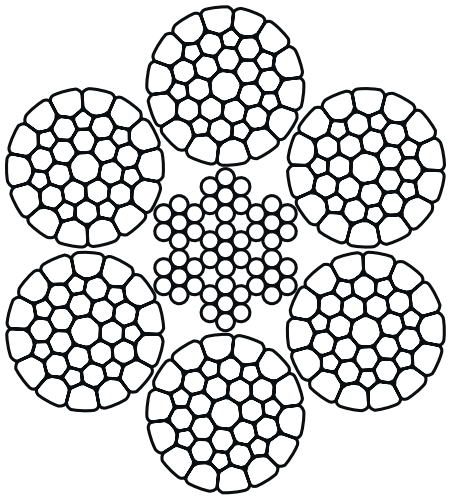
STS 3064.1K

Application: ropes for various load-lifting machinery, including excavators

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
18,0	1,38	186	210	232
20,0	1,70	232	261	289
22,0	2,06	284	320	354
24,0	2,45	337	380	420
25,0	2,66	366	412	457
26,0	2,87	389	438	486
27,0	3,10	433	489	541
28,0	3,33	454	512	567
31,0	4,08	550	620	687
32,0	4,35	586	661	732
33,0	4,63	638	719	797
36,0	5,51	744	839	929
37,0	5,82	791	892	988
38,0	6,14	835	941	1042
39,5	6,63	908	1023	1133
40,0	6,80	936	1056	1169
42,0	7,50	1038	1171	-
44,0	8,23	1145	1291	-
46,5	9,19	1270	1432	-
48,0	9,79	1332	1501	-
52,0	11,5	1571	1771	-
53,5	12,2	1682	1896	-

6xK36(1-7-7+7-14)-IWRC

EN 12385-4 6xK36WS-IWRC



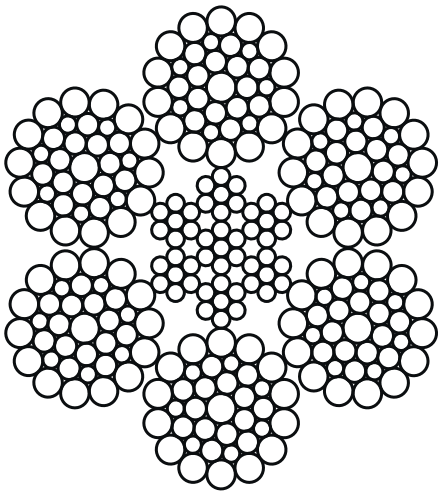
STS 3064.2K

Application: ropes for various load-lifting machinery, including excavators

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
14,0	0,93	122	136	150
18,0	1,55	202	224	248
19,0	1,72	228	253	280
20,0	1,91	248	279	309
22,0	2,31	304	343	379
24,0	2,75	350	395	437
25,5	3,10	406	458	507
26,0	3,22	417	471	521
28,0	3,74	490	552	612
32,0	4,88	630	710	786
36,0	6,18	794	895	991
39,0	7,26	956	1078	1194
40,0	7,63	1000	1128	1249
44,0	9,23	1225	1381	-
45,5	9,88	1280	1444	-
48,0	10,99	1422	1603	-
52,0	12,90	1684	1898	-

6x36(1-7-7+7-14)-IWRC

EN 12385-6 6x36WS-IWRC



STS 011

Application: mining lifting ropes for vertical shafts

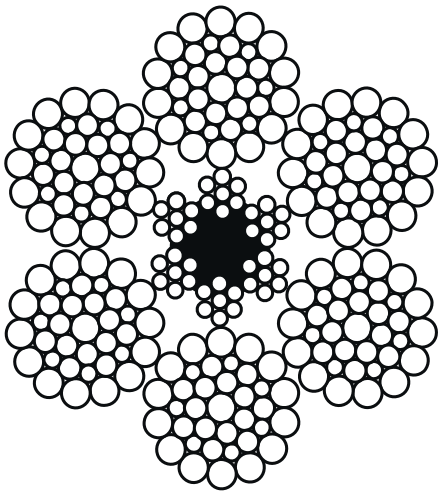
Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
28,0	3,530	608,5	647,5	686,0	487,0	518,0	528,5
30,0	4,105	707,0	752,0	797,5	565,5	601,5	614,0
32,5	4,575	787,5	838,0	888,0	630,0	670,0	683,5
35,5	5,625	968,5	1030	1090	774,5	824,0	840,5
36,5	6,075	1045	1110	1175	837,0	890,0	908,0
39,0	6,745	1160	1235	1305	928,5	988,0	1005
41,0	7,495	1290	1370	1455	1030	1095	1120
42,0	8,335	1385	1470	1560	1105	1175	1200
45,5	9,125	1570	1670	1770	1255	1335	1360
49,0	10,725	1845	1960	2080	1475	1570	1600
52,0	12,255	2115	2250	2380	1690	1800	1835

Mining lifting ropes intended for vertical shafts with depth of more than 800 m, equipped with winders drum-type, can have a variable lay step in different sites along the length of the steel wire rope.

The manufacturer defines the value of lay steps at various sites along the length of the steel wire rope in accordance with customer requirements.

6x36(1-7-7+7-14)-IWRC

EN 12385-6 6x36WS-IWRC



STS 043

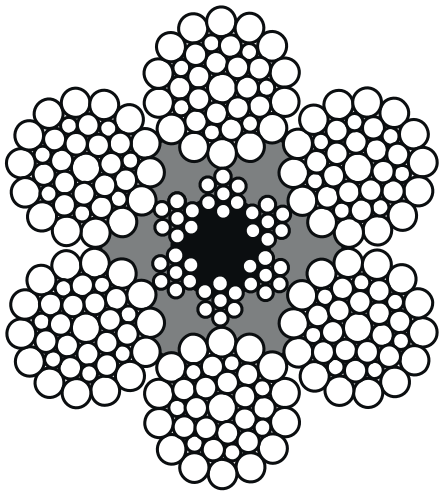
Application: mining lifting ropes for vertical shafts

Rope diameter, mm	Unlubricated rope approximate weight, kg/m		Tensile strength, N/mm²							
			1570	1670	1770	1860	1570	1670	1770	1860
	Variant		Breaking load, kN, not less than							
	A	B	calculated aggregate breaking load				minimum breaking load			
28,0	3,295	3,427	597,0	635,0	673,0	707,0	477,5	508,0	518,0	544,5
30,0	3,760	3,910	680,0	723,5	767,0	806,0	544,0	579,0	590,5	620,5
32,5	4,290	4,482	776,5	825,5	875,0	919,5	621,0	660,5	674,0	708,0
35,5	5,265	5,476	952,5	1010	1070	1125	762,0	810,5	827,0	869,0
36,5	5,650	5,876	1020	1085	1150	1205	816,5	868,5	886,0	931,0
39,0	6,305	6,557	1140	1210	1285	1350	912,0	970,0	989,5	1040
41,0	6,850	7,124	1235	1315	1395	1465	991,5	1055	1075	1130
42,0	7,510	7,810	1355	1445	1530	1605	1085	1155	1175	1235
45,5	8,555	8,897	1545	1645	1745	1835	1235	1315	1340	1410
49,0	10,090	10,494	1825	1940	2055	2160	1460	1550	1580	1665
52,0	11,445	11,903	2070	2200	2330	2450	1655	1760	1795	1885

Mining lifting ropes variant “B” intended for vertical shafts with depth of more than 800 m, equipped with winders drum-type, can have a variable lay step in different sites along the length of the steel wire rope.

The manufacturer defines the value of lay steps at various sites along the length of the steel wire rope in accordance with customer requirements.

6x36(1-7-7+7-14)-EPIWRC “Metaplast”



EN 12385-6 6x36WS-EPIWRC

STS 049

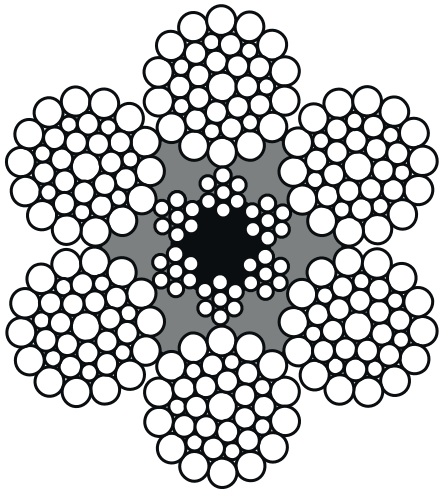
Application: ropes for vertical shaft multi-rope - and single-rope hoisting plants with friction pulleys and hoisting plants with drum machines

Rope diameter, mm	Unlubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1670	1770	1860	1670	1770	1860
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
28,0	3,295	634,0	672,0	706,0	507,0	517,0	543,5
30,0	3,755	722,5	766,0	805,0	578,0	589,5	619,5
32,5	4,260	819,5	869,0	913,0	655,0	669,0	703,0
35,5	5,270	1015	1070	1125	811,0	823,5	866,0
36,5	5,605	1075	1140	1200	860,0	877,5	924,0
39,0	6,310	1215	1285	1350	972,0	989,0	1035
41,0	6,845	1315	1395	1465	1050	1070	1125
42,0	7,545	1450	1535	1615	1160	1180	1240
45,5	8,555	1645	1745	1835	1315	1340	1410
49,0	10,045	1930	2050	2150	1540	1575	1655
52,0	11,450	2205	2335	2455	1760	1795	1890

Rope can be produced in three types of execution:

- execution “U” – with constant lay step for all types hoisting plants;
- execution “B” – with variable lay step for drum type hoisting plants;
- execution “SH” – with variable lay step for hoisting plants with friction pulleys.

6x36(1-7-7+7-14)-EPIWRC “Metaplast 6”



EN 12385-6 6x36WS-EPIWRC

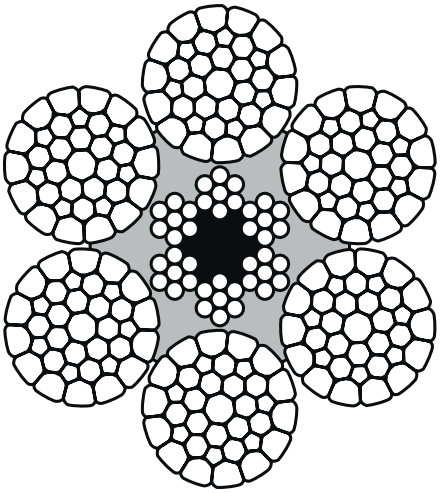
STS 096 MP6

Application: lifting steel ropes adapted with improved technical parameters for mine lifting installations with pulleys of friction and drum-type coal and iron-ore mines with a depth of more than 1000 m

Rope diameter, mm	Unlubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1670	1770	1860	1670	1770	1860
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
28,0	3,08	603	640	672	465	492	517
30,0	3,60	697	738	776	536	568	597
32,0	4,08	794	841	884	611	648	681
34,0	4,62	893	947	995	688	729	766
36,0	5,19	1004	1064	1118	773	819	861
38,0	5,72	1118	1185	1246	861	913	959
40,0	6,37	1240	1314	1381	955	1012	1063
42,0	7,09	1371	1453	1527	1056	1119	1176
44,0	7,79	1500	1590	1671*	1155	1224	1287*
46,0	8,43	1643	1742	1830*	1265	1341	1409*
48,0	9,22	1792	1899	1996*	1380	1463	1537*
50,0	10,02	1941	2057	2162*	1495	1584	1665*
52,0	10,84	2105	2231	-	1621	1718	-
54,0	11,67	2264	2400	-	1743	1848	-
56,0	12,45	2436	2581	-	1875	1988	-

* - for bright ropes

6xK36(1-7-7+7-14)-EPIWRC “Metaplast 6K”



EN 12385-6 6xK36WS-EPIWRC

STS 096 MP6K

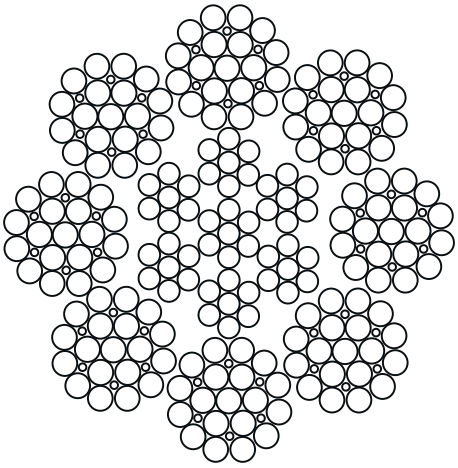
Application: lifting steel ropes adapted with improved technical parameters for mine lifting installations with pulleys of friction and drum-type coal and iron-ore mines with a depth of more than 1000 m

Rope diameter, mm	Unlubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1670	1770	1860	1670	1770	1860
		Breaking load, kN, not less than					
		summary value for all wires of rope			for rope overall		
28,0	3,29	638	676	710	491	520	547
30,0	3,81	734	778	817	565	599	629
32,0	4,35	834	884	929	642	681	716
34,0	4,87	944	1001	1052	727	771	810
36,0	5,43	1059	1122	1179	815	864	908
38,0	6,00	1181	1252	1316	909	964	1013
40,0	6,72	1308	1386	1457	1007	1067	1122
42,0	7,41	1446	1532	1610	1113	1180	1240
42,5	7,71	1512	1602	1684	1164	1234	1296
44,0	8,30	1585	1680	1766*	1221	1294	1360*
46,0	8,78	1735	1839	1932*	1336	1416	1488*
48,0	9,63	1888	2001	2103*	1454	1541	1619*
50,0	10,46	2052	2175	2285*	1580	1675	1760*
52,0	11,30	2219	2351	-	1708	1811	-
54,0	12,12	2397	2541	-	1846	1956	-
56,0	13,04	2573	2728	-	1982	2100	-

* - for bright ropes

8x25(1-6-6F-12)-IWRC

EN 12385-4 8x25F-IWRC, ISO 2408, DIN 3061 SE



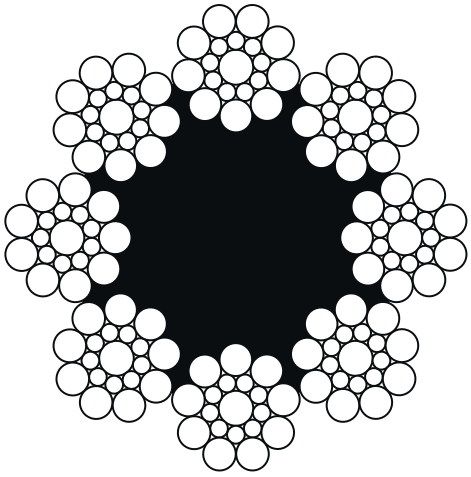
STS 3061.2

Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
13,0	0,688	122	138	153	91,9	104	115
14,0	0,798	142	160	177	107	120	133
15,0	0,916	163	184	203	122	138	153
16,0	1,04	185	209	231	139	157	174
17,0	1,18	209	236	261	157	177	196
18,0	1,32	235	265	293	176	199	220
19,0	1,47	261	295	326	196	221	245
20,0	1,63	290	327	362	218	245	272
22,0	1,97	351	395	438	263	297	329
24,0	2,34	417	470	521	313	353	391
26,0	2,75	490	552	611	368	414	459
28,0	3,19	568	640	709	426	481	532
30,0	3,66	652	735	814	489	552	611
32,0	4,17	742	836	926	557	628	695
34,0	4,70	837	944	1045	629	709	785
35,0	4,99	887	1000	1108	666	751	832
36,0	5,27	939	1058	1172	705	795	880
38,0	5,88	1046	1179	1306	785	885	980
40,0	6,51	1159	1306	1447	870	981	1086
42,0	7,18	1278	1440	1595	959	1082	1198
44,0	7,88	1402	1581	1750	1053	1187	1314
48,0	9,38	1669	1881	-	1253	1413	-
52,0	11,0	1958	2208	-	1471	1658	-
56,0	12,8	2271	2561	-	1706	1923	-

8x19(1-9-9)-FC

EN 12385-5 8x19S-FC, ISO 2408, DIN 3062 FE



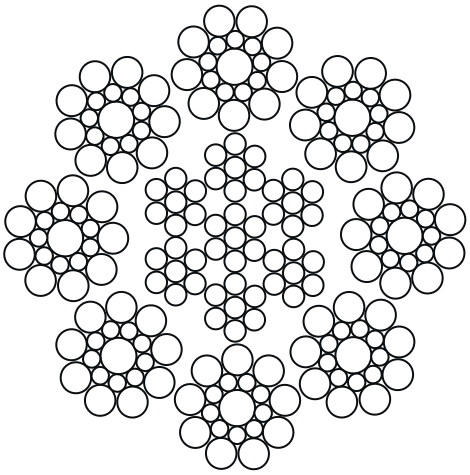
STS 3062.1

Application: ropes for elevators and hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1370/ 1770	1570	1770	1370/ 1770	1570	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
8,0	0,218	30,0	34,3	38,7	25,2	28,8	32,5
9,0	0,275	37,9	43,4	49,0	31,8	36,5	41,1
10,0	0,340	46,8	53,6	60,5	39,3	45,1	50,8
11,0	0,411	56,6	64,9	73,2	47,6	54,5	61,5
12,0	0,490	67,4	77,2	87,1	56,6	64,9	73,2
13,0	0,575	79,1	90,6	102	66,4	76,1	85,9
14,0	0,666	91,7	105	119	77,1	88,3	99,6
15,0	0,765	105	121	136	88,5	101	114
16,0	0,870	120	137	155	101	115	130

8x19(1-9-9)-IWRC

EN 12385-5 8x19S-IWRC, ISO 2408, DIN 3062 SE



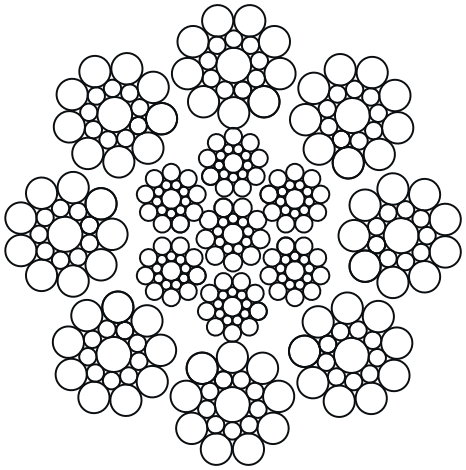
STS 3062.2

Application: ropes for elevators and hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²			
		1570 (1370/1770)	1770	1570 (1370/1770)	1770
		Breaking load, kN, not less than			
		calculated aggregate breaking load		minimum breaking load	
8,0	0,260	45,9	51,8	35,8	40,3
9,0	0,330	58,1	65,5	45,3	51,0
10,0	0,407	71,7	80,9	55,9	63,0
11,0	0,492	86,8	97,9	67,6	76,2
12,0	0,586	103	116	80,5	90,7
13,0	0,688	121	137	94,5	106
14,0	0,798	141	159	110	124
15,0	0,916	161	182	126	142
16,0	1,04	184	207	143	161

8x19(1-9-9)-IWRC (7x19S)

EN 12385-4 8x19S-IWRC, ISO 2408



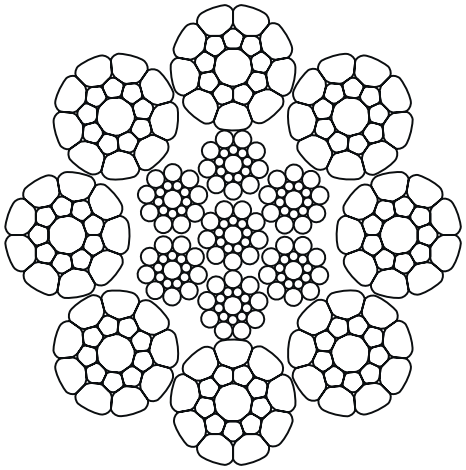
STS 3062.2S

Application: hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
24,0	2,48	439	495	548	342	385	427

8xK19(1-9-9)-IWRC (7x19S)

EN 12385-54 8xK19S-IWRC, ISO 2408



STS 3062.2K

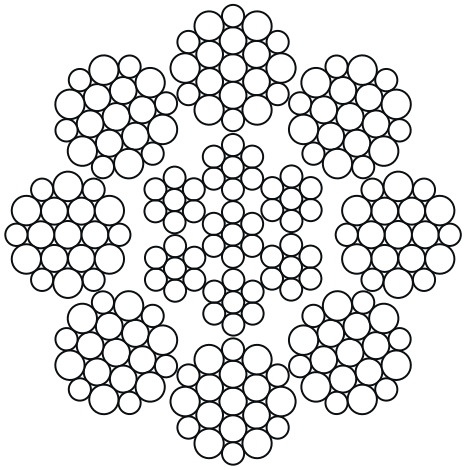
Application: hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
24,0	2,48	439	523	579	369	416	460

STALKANAT

8x19(1-6-6+6)-IWRC

EN 12385-4 8x19W-IWRC, ISO 2408, DIN 3063 SE



STS 3063.2

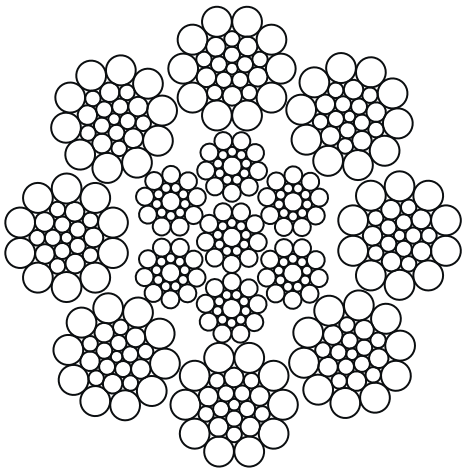
Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
10,0	0,407	70,8	79,8	88,4	53,2	59,9	66,4
11,0	0,492	85,7	96,6	107	64,3	72,5	80,3
12,0	0,586	102	115	127	76,6	86,3	95,6
13,0	0,69	120	135	149	89,8	101	112
14,0	0,80	139	156	173	104	117	130
15,0	0,92	159	180	199	120	135	149
16,0	1,04	181	204	226	136	153	170
17,0	1,18	205	231	255	154	173	192
18,0	1,32	229	259	286	172	194	215
19,0	1,47	256	288	319	192	216	240
20,0	1,63	283	319	354	213	240	265
22,0	1,97	343	386	428	257	290	321
24,0	2,34	408	460	509	306	345	382
26,0	2,75	479	540	598	359	405	449
28,0	3,19	555	626	693	417	470	520
30,0	3,66	637	718	796	478	539	597
32,0	4,17	725	817	905	544	614	680
34,0	4,70	819	923	1022	615	693	767
36,0	5,27	918	1035	1146	689	777	860
38,0	5,88	1022	1153	1276	768	865	958
40,0	6,51	1133	1277	1414	851	959	1062

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
42,0	7,18	1249	1408	-	938	1057	-
44,0	7,88	1371	1545	-	1029	1160	-
48,0	9,38	1631	1839	-	1225	1381	-
52,0	11,0	1915	2159	-	1437	1621	-
56,0	12,8	2221	2503	-	1667	1879	-

8x26(1-5-5+5-10)-IWRC

EN 12385-4 8x26WS-IWRC, ISO 2408



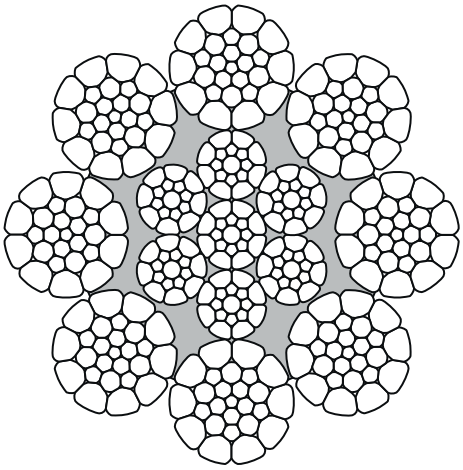
STS 101.2

Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
18,0	1,319	232	262	290	181	204	226
20,0	1,628	287	324	358	224	252	279
22,0	1,97	347	392	434	271	305	338
24,0	2,34	413	466	516	322	363	402
26,0	2,75	485	547	606	378	426	472
28,0	3,19	563	634	702	438	494	547
32,0	4,17	735	828	917	572	645	715
36,0	5,27	930	1048	1161	724	817	904
40,0	6,51	1148	1294	1433	894	1008	1116
42,0	7,18	1266	1427	-	986	1112	-
44,0	7,88	1389	1566	-	1082	1220	-
48,0	9,38	1653	1864	-	1288	1452	-
52,0	11,01	1940	2187	-	1511	1704	-

8xK26(1-5-5+5-10)-EPIWRC

EN 12385-4 8xK26WS-EPIWRC, ISO 2408



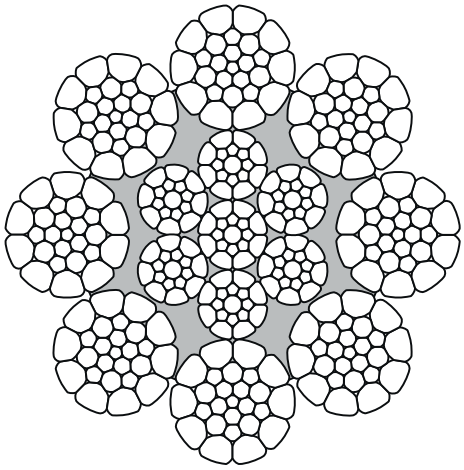
STS 101

Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
18,0	1,39	189	213	235
20,0	1,75	238	268	297
22,0	2,10	286	322	356
24,0	2,51	341	384	425
25,0	2,74	372	420	465
26,0	2,95	401	452	501
28,0	3,45	470	530	587
29,0	3,68	501	565	626
30,0	3,95	540	608	674
32,0	4,56	622	701	776
34,0	5,08	695	784	868
35,0	5,45	745	840	931
36,0	5,66	771	869	963
38,0	6,26	853	962	1065
40,0	7,05	961	1084	-
42,0	7,70	1050	1184	-
44,0	8,65	1179	1329	-
46,0	9,42	1285	1449	-
48,0	10,24	1397	1575	-

8xK26(1-5-5+5-10)-EPIWRC

EN 12385-4 8xK26WS-EPIWRC, ISO 2408



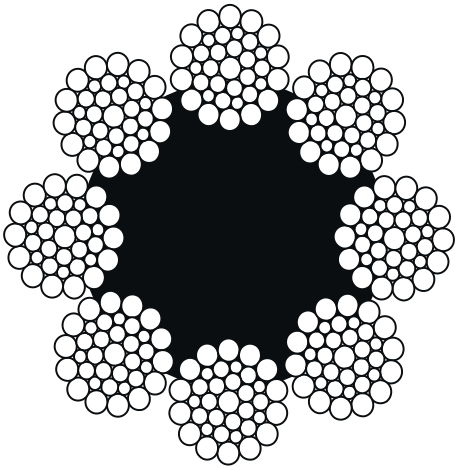
STS 101.6

Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
32,0	4,62	631	711	787
40,0	7,13	972	1096	1214

8x36(1-7-7+7-14)-FC

EN 12385-4 8x36WS-FC, ISO 2408, DIN 3067 FE



STS 3067.1

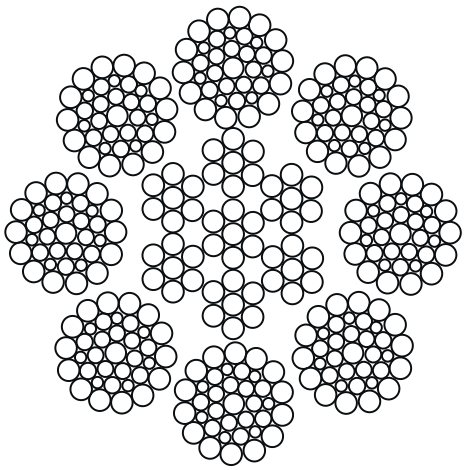
Application: ropes for hoistin transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
14,0	0,682	110	124	137	90,2	102	113
16,0	0,891	143	162	179	118	133	147
18,0	1,13	182	205	227	149	168	186
20,0	1,39	224	253	280	184	207	230
22,0	1,68	271	306	339	223	251	278
24,0	2,00	323	364	403	265	299	331
25,0	2,18	350	395	437	288	324	359
26,0	2,35	379	427	473	311	351	388
28,0	2,73	439	495	549	361	407	450
30,0	3,13	504	569	630	414	467	517
32,0	3,56	574	647	717	471	531	588
34,0	4,02	648	730	809	532	600	664
36,0	4,51	726	819	907	596	672	744
38,0	5,03	809	912	1010	664	749	829
40,0	5,57	897	1011	1120	736	830	919
42,0	6,14	989	1115	1234	811	915	1013
44,0	6,74	1085	1223	1355	891	1004	1112
48,0	8,02	1291	1456	1612	1060	1195	1323
52,0	9,41	1516	1709	-	1244	1402	-
56,0	10,91	1758	1982	-	1443	1626	-
60,0	12,53	2018	2275	-	1656	1867	-

STALKANAT

8x36(1-7-7+7-14)-IWRC

EN 12385-4 8x36WS-IWRC, ISO 2408, DIN 3067 SE



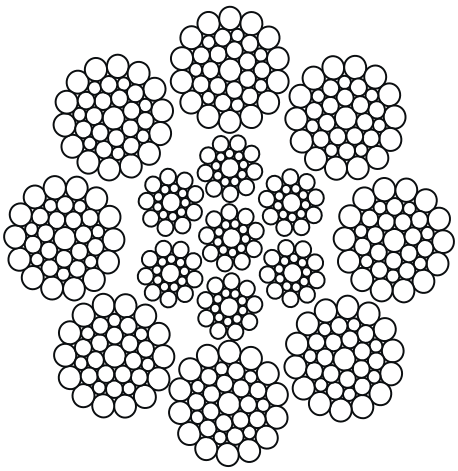
STS 3067.2

Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
14,0	0,817	144	162	180	110	124	137
16,0	1,068	188	212	235	143	161	179
18,0	1,35	238	268	297	181	204	226
20,0	1,67	294	331	367	224	252	279
22,0	2,02	356	401	444	271	305	338
24,0	2,40	423	477	528	322	363	402
25,0	2,61	459	518	573	349	394	436
26,0	2,82	497	560	620	378	426	472
28,0	3,27	576	649	719	438	494	547
30,0	3,75	661	746	826	503	567	628
32,0	4,27	752	848	939	572	645	715
34,0	4,82	849	958	1060	646	728	807
36,0	5,40	952	1074	1189	724	817	904
38,0	6,02	1061	1196	1325	807	910	1008
40,0	6,67	1176	1325	1468	894	1008	1116
42,0	7,36	1296	1461	1618	986	1112	1231
44,0	8,07	1422	1604	1776	1082	1220	1351

8x36(1-7-7+7-14)-IWRC (7x19S)

EN 12385-4 8x36WS-IWRC (7x19S), ISO 2408, DIN 3067 SE



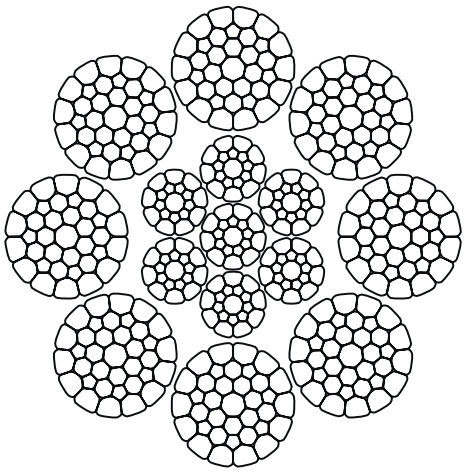
STS 3067.2S

Application: ropes for hoisting transport machines

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
48,0	9,61	1693	1909	2113	1288	1452	1608
52,0	11,28	1987	2240	-	1511	1704	-
56,0	13,08	2304	2598	-	1753	1976	-
60,0	15,01	2645	2982	-	2012	2268	-

8xK36(1-7-7+7-14)-IWRC(K)

EN 12385-4 8xK36WS-IWRC(K)



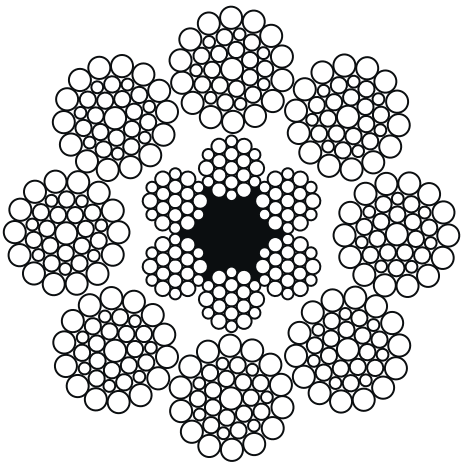
STS 092.1

Application: ropes for various load-lifting machinery, including excavators

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
39,0	6,59	1169	1244	1318	912	970	1028
45,5	9,19	1628	1732	1836	1302	1385	1468
52,0	11,82	2096	2230	2363	1635	1739	1843

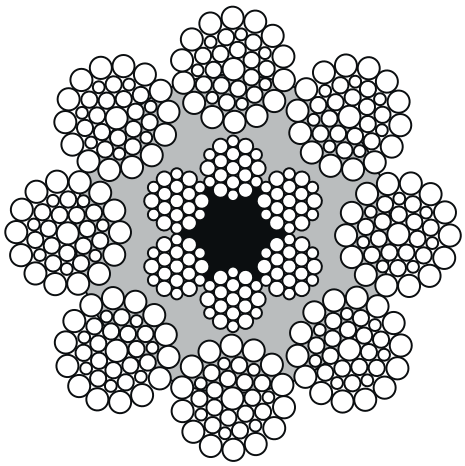
8x36(1-7-7+7-14)-IWRC

Standard



8x36(1-7-7+7-14)-EPIWRC

Type MP 8



EN 12385-6 8x36WS-IWRC, 8x36WS-EPIWRC

STS 010

STS 010 MP8

Application: mining lifting ropes for vertical shafts, hauling and lifting ropes for excavators

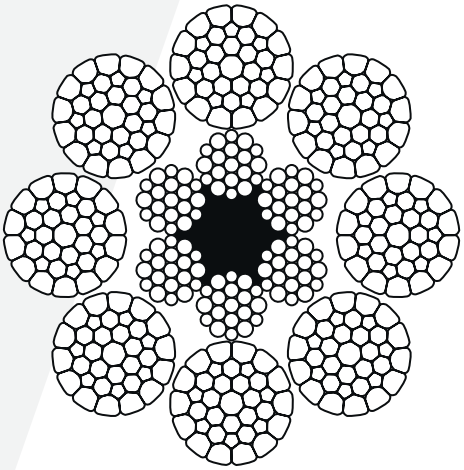
Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
39,0	6,47	1110	1180	1255	891,0	947,5	1000
40,0	6,85	1175	1255	1330	943,5	1000	1060
41,0	7,12	1225	1305	1380	981,5	1040	1105
42,0	7,66	1320	1405	1490	1055	1120	1190
44,0	7,98	1375	1460	1550	1100	1170	1240
45,5	8,74	1505	1605	1700	1205	2801	1360
48,0	9,72	1675	1785	1890	1340	1425	1510
49,0	10,51	1815	1930	2045	1450	1545	1635
52,0	11,60	2000	2125	2255	1600	1700	1805
56,0	13,29	2290	2440	2585	1835	1950	2065
57,0	14,55	2510	2670	2830	2010	2135	2265
60,5	15,82	2715	2890	3060	2170	2310	2450
64,0	16,86	2905	3090	3275	2325	2475	2620

Mining lifting ropes for vertical shafts with depth of more than 800 m, equipped with winders drum-type, can have a variable step of laying in different sites along their length.

The manufacturer defines the value of laying steps at various sites along the length of the steel wire rope as agreed with the customer in according to requirements to the operation of that steel wire rope.

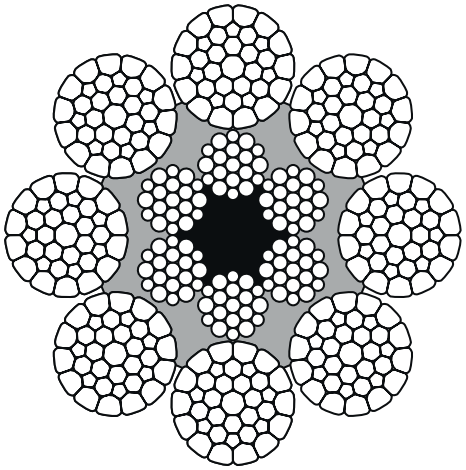
8xK36(1-7-7+7-14)-IWRC

Type 8K



8xK36(1-7-7+7-14)-EPIWRC

Type MP 8K



EN 12385-6 8xK36WS-IWRC, 8xK36WS-EPIWRC

STS 010 8K

STS 010 MP8K

Application: mining lifting ropes for vertical shafts, hauling and lifting ropes for excavators

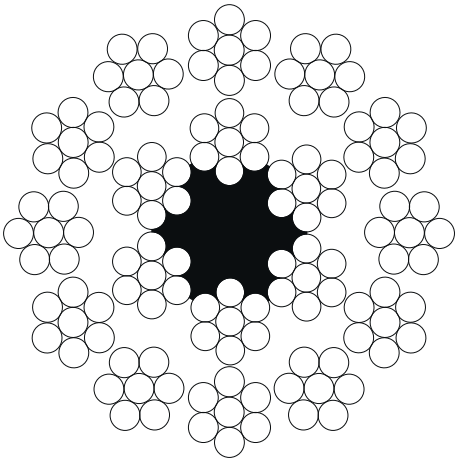
Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
39,0	6820,8	1150	1223	1296	920	978	1037
40,0	7216,9	1251	1331	1410	1001	1065	1128
41,0	7498,3	1295	1378	1460	1036	1102	1168
42,0	8071,9	1369	1456	1543	1095	1165	1234
44,0	8405,4	1533	1630	1728	1226	1304	1382
45,5	9210,4	1604	1707	1809	1284	1365	1447
48,0	10231,9	1827	1944	2060	1462	1555	1648
49,0	11055,3	1921	2043	2166	1537	1635	1732
52,0	12205,7	2078	2210	2343	1662	1768	1874
56,0	13981,4	2439	2594	2750	1951	2075	2200
57,0	15294,8	2597	2763	2928	2078	2210	2343
60,5	16634,2	2835	3016	3196	2268	2413	2557

Mining lifting ropes variant “B” intended for vertical shafts with depth of more than 800 m, equipped with winders drum-type, can have a variable lay step in different sites along the length of the steel wire rope.

The manufacturer defines the value of lay steps at various sites along the length of the steel wire rope in accordance with customer requirements.

18x7(1-6)-FC

EN 12385-4 18x7-FC, ISO 2408, DIN 3069 FE, GOST 7681-80



STS 3069.1

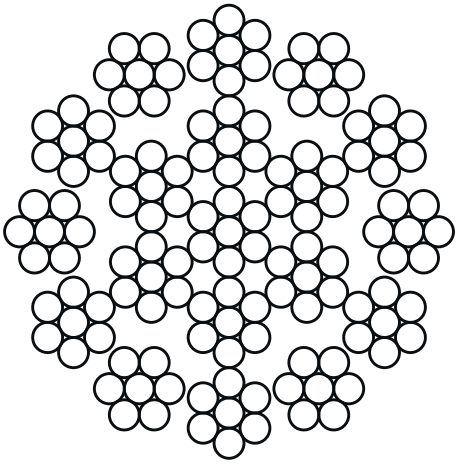
Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
8,0	0,244	41,0	46,2	51,2	33,0	37,2	41,1
9,0	0,309	51,9	58,5	64,8	41,7	47,0	52,1
9,6	0,352	59,0	66,6	73,7	47,5	53,5	59,2
10,0	0,382	64,1	72,2	80,0	51,5	58,1	64,3
11,0	0,462	77,5	87,4	96,8	62,3	70,2	77,8
12,0	0,550	92,2	104	115	74,2	83,6	92,6
12,5	0,597	100	113	125	80,5	90,7	100
13,0	0,646	108	122	135	87,0	98,1	109
14,0	0,749	126	142	157	101	114	126
15,0	0,860	144	162	180	116	131	145
16,0	0,978	164	185	205	132	149	165
17,0	1,10	185	209	231	149	168	186
17,5	1,17	196	221	245	158	178	197
18,0	1,24	208	234	259	167	188	208
19,0	1,38	231	261	289	186	210	232
20,0	1,53	256	289	320	206	232	257
20,5	1,61	269	303	336	216	244	270
22,0	1,85	310	350	387	249	281	311
23,0	2,02	339	382	423	272	307	340
24,0	2,20	369	416	461	297	334	370
25,5	2,48	417	470	520	335	378	418
26,0	2,58	433	488	541	348	392	435
27,0	2,78	467	526	583	375	423	469

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
28,0	2,99	502	566	627	404	455	504
28,5	3,10	520	587	650	418	472	522
30,0	3,44	577	650	720	463	523	579
31,5	3,79	636	717	793	511	576	638
32,0	3,91	656	739	819	527	594	658
34,0	4,42	740	835	924	595	671	743
36,0	4,95	830	936	-	667	752	-
38,0	5,52	925	1043	-	744	838	-

18x7(1-6)-WSC

EN 12385-4 18x7-WSC, ISO 2408, DIN 3069 SE



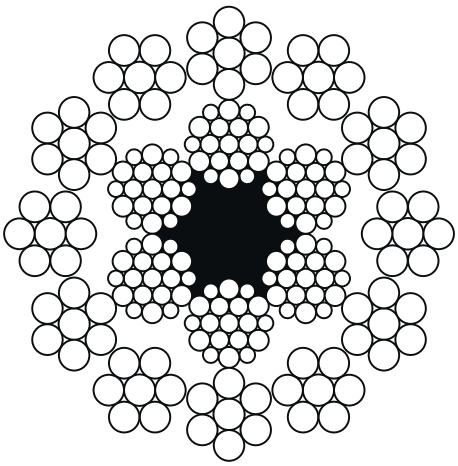
STS 3069.2

Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
8,0	0,257	0,257	49,1	54,3	33,0	37,2	41,1
9,0	0,325	0,325	62,1	68,7	41,7	47,0	52,1
10,0	0,401	0,401	76,6	84,8	51,5	58,1	64,3
11,0	0,485	0,485	92,7	103	62,3	70,2	77,8
12,0	0,577	0,577	110	122	74,2	83,6	92,6
13,0	0,678	0,678	129	143	87,0	98,1	109
14,0	0,786	0,786	150	166	101	114	126
15,0	0,902	0,902	172	191	116	131	145
16,0	1,027	1,027	196	217	132	149	165
17,0	1,159	1,159	221	245	149	168	186
18,0	1,299	1,299	248	275	167	188	208
19,0	1,45	1,45	277	306	186	210	232
20,0	1,60	1,60	306	339	206	232	257
22,0	1,94	1,94	371	411	249	281	311
23,0	2,12	2,12	405	449	272	307	340
24,0	2,31	2,31	441	489	297	334	370
26,0	2,71	2,71	518	574	348	392	435
28,0	3,14	3,14	601	665	404	455	504
30,0	3,61	3,61	690	764	463	523	579
32,0	4,11	4,11	785	869	527	594	658
34,0	4,64	4,64	886	981	595	671	743
36,0	5,20	5,20	993	-	667	752	-
38,0	5,79	5,79	1106	-	744	838	-

12x7(1-6)-IWRC

EN 12385-4 12x7-IWRC, ISO 2408, GOST 16828



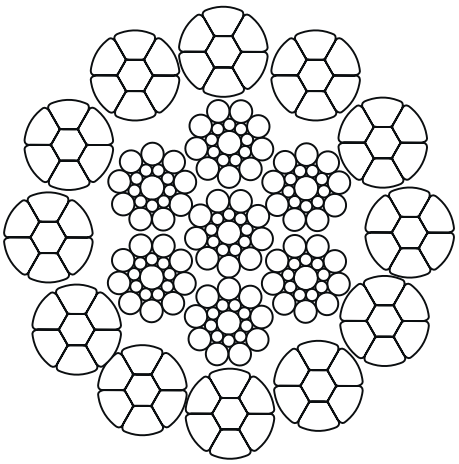
STS 16828

Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
20,0	1,56	263,0	279,5	296,0	210,5	223,5	236,5
22,0	1,84	311,0	330,5	350,0	249,0	264,5	280,0
25,0	2,40	404,5	430,0	455,5	323,5	344,0	364,0
27,0	2,81	475,0	505,0	534,5	380,0	404,0	427,5
30,0	3,42	580,5	617,0	653,0	464,5	493,5	522,5
32,0	4,06	687,5	730,5	773,5	550,0	584,5	619,0
34,0	4,55	769,0	817,0	865,0	615,0	653,5	692,0
36,0	5,05	857,0	911,0	964,5	685,5	728,5	771,5
38,0	5,59	948,5	1005	1065	758,5	806,0	853,5
40,0	6,50	1095	1165	1235	878,0	933,0	988,0
50,0	9,62	1635	1740	1840	1310	1390	1470

12xK7(1-6)-IWRC

EN 12385-4,6 12xK7-IWRC, ISO 2408



STS 105

Application: ropes for hoisting transport machines, mining lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
24,0	2,31	329	371	411
30,5	4,03	572	645	714
33,0	4,73	671	757	838
35,5	5,37	762	859	951
36,0	5,58	791	892	988
38,0	6,28	891	1004	-

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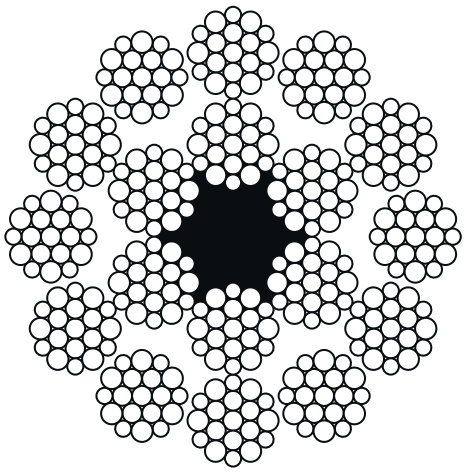
18x19(1-6-6+6)-FC

EN 12385-4 18x19-FC, ISO 2408, GOST 3088



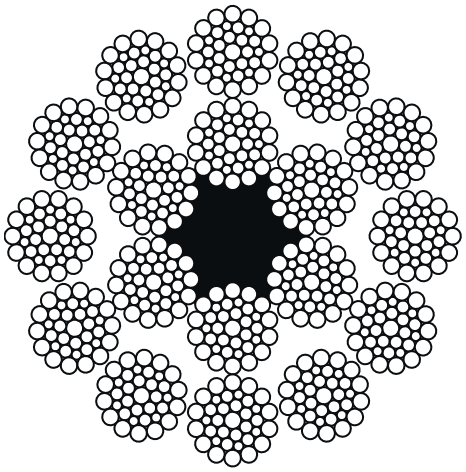
STS 3088

Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1770	1960	1570	1770	1960
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
16,0	0,978	174	196	217	132	149	165
23,0	2,021	360	405	449	272	307	340
29,5	3,324	592	667	739	448	505	559
31,5	3,790	675	760	842	511	576	638
34,0	4,416	786	886	981	595	671	743
36,0	4,951	881	993	1100	667	752	833
38,5	5,662	1008	1136	1258	763	861	953
41,0	6,421	1143	1288	1427	866	976	1081
44,0	7,396	1316	1484	1643	997	1124	1245
45,5	7,908	1407	1587	1757	1066	1202	1331
49,5	9,360	1666	1878	2079	1262	1423	1575
51,0	9,936	1768	1993	2207	1339	1510	1672
52,0	10,33	1838	2072	2295	1392	1570	1738
54,5	11,35	2019	2276	2521	1530	1724	1910

12x36(1-7-7+7-14)-IWRC

EN 12385-4 12x36WS-IWRC, ISO 2408, GOST 16827



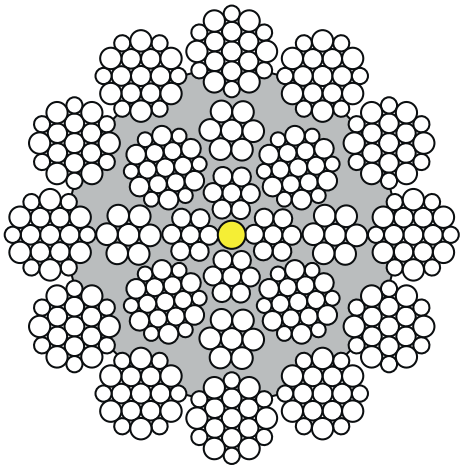
STS 16827

Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
36,0	6,140	1005	1070	1135	808	858	908
40,0	6,900	1130	1200	1270	906	963	1015
45,0	9,060	1530	1625	1720	1220	1300	1375
50,0	10,33	1740	1845	1955	1390	1475	1565
55,0	12,73	2095	2225	2355	1675	1780	1885
60,0	15,22	2625	2785	2950	2100	2230	2360
65,0	17,79	2905	3090	3270	2325	2470	2615

12x19(1-6-6+6)-EPIWRC

EN 12385-6 12x19W-EPIWRC, ISO 2408



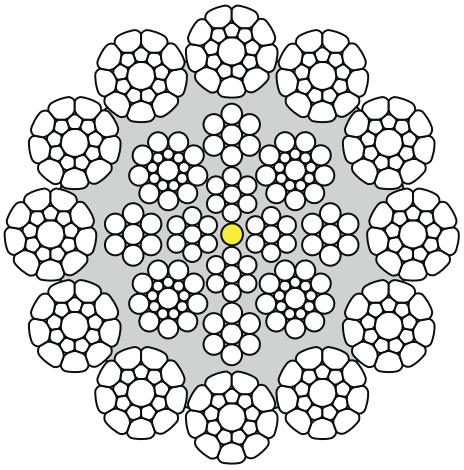
STS 121

Application: mining lifting ropes for vertical shafts, balance rope

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
45,5	8,52	1149	1295	1435
52,0	11,48	1545	1742	1929
54,5	12,09	1631	1838	2036
56,0	13,02	1757	1981	-

12xK19(1-9-9)-EPIWRC

EN 12385-6 12xK19S-EPIWRC, ISO 2408



STS 121.1

Application: mining lifting ropes for vertical shafts

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1570	1770	1960
		Minimum breaking load, kN, not less than		
33,0	4,60	621	700	775
38,0	6,10	824	928	1028

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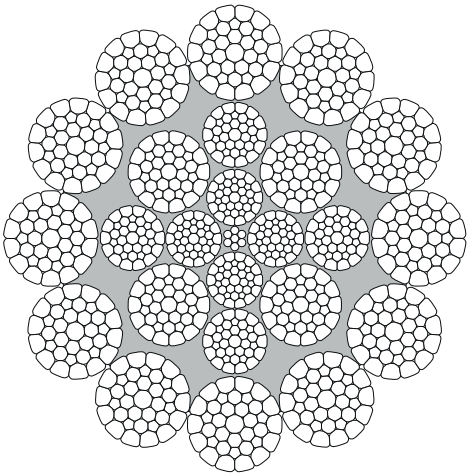
12xK36(1-7-7+7-14)-EPIWRC

EN 12385-6 12xK36WS-EPIWRC, ISO 2408



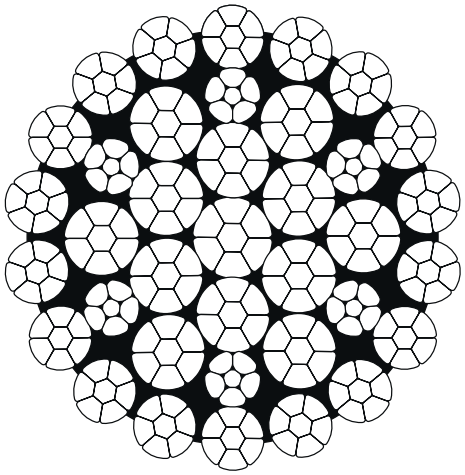
STS 121.2K

Application: mining lifting ropes for vertical shafts, balance rope

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²			
		1370	1570	1670	1770
		Minimum breaking load, kN, not less than			
52,0	12,80	1485	1702	1811	1919

16xK7-EPIWRC(K)

EN 12385-4,6 16xK7-EPIWRC(K), ISO 2408



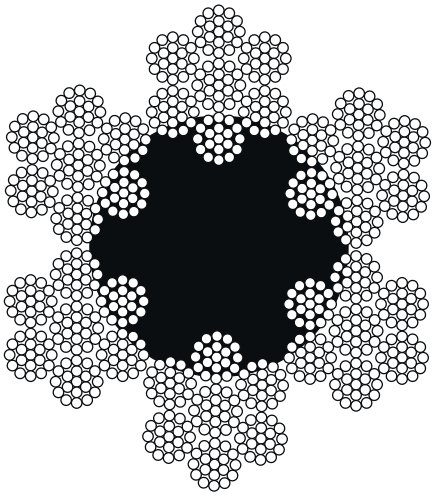
STS 100

Application: rotation-resistant ropes, for cranes, mining lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²		
		1670	1770	1960
		Minimum breaking load, kN, not less than		
12,0	0,635	86,6	91,8	102
13,0	0,739	102	108	119
14,0	0,833	118	125	138
15,0	0,969	135	143	159
16,0	1,12	154	163	181
17,0	1,26	174	184	204
18,0	1,40	195	206	229
19,0	1,58	217	230	255
20,0	1,75	240	255	282
21,0	1,92	265	281	311
22,0	2,12	291	308	342
23,0	2,34	318	337	373
24,0	2,54	346	367	406
25,0	2,78	376	398	441
26,0	3,00	406	431	477
27,0	3,22	438	465	514
28,0	3,45	471	500	553
29,0	3,67	506	536	593
30,0	3,92	541	573	635

6x6x19(1-6-6+6)-FC

EN 12385-4 6x6x19W-FC, ISO 2408, GOST 3089



STS 3089

Application: multi-purpose lifting ropes

Rope diameter, mm	Lubricated rope approximate weight, kg/m	Tensile strength, N/mm²					
		1570	1670	1770	1570	1670	1770
		Breaking load, kN, not less than					
		calculated aggregate breaking load			minimum breaking load		
43,0	5,28	816,5	867,5	918,5	694,0	736,0	761,0
51,0	7,33	1145	1220	1290	974,5	1025	1060
59,5	10,35	1575	1670	1770	1330	1415	1460
64,5	11,43	1830	1945	2060	1550	1650	1700
68,5	13,15	2070	2200	2330	1750	1865	1920
73,0	15,07	2365	2510	2660	2000	2130	2200
78,0	16,92	2675	2845	3010	2270	2415	2480

The “STALKANAT” works was founded in 1806. Today, the Private Joint-Stock Company “Stalkanat” is the largest enterprise in Ukraine that produces metal goods (ropes, strands, wires, fibres). The company employs over a thousand workers and employees.

2024